Policy, Research, and External Affairs

WORKING PAPERS

Catalog

The World Bank
February 1991
WPS 135 (Update)

PRE Working Papers

Catalog of Numbers 401 to 601

Available only from the World Bank Bookstore.

Policy, Research, and External Affairs

WORKING PAPERS

Catalog

WPS 135 (Update)

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Produced by PRE Editorial Services

Volume V

Numbers 401 – 500

401. Policing Unfair Imports: The U.S. Example

J. Michael Finger and Tracy Murray

Unfair trade cases are where the action is because they are broad enough to handle all the action.

Finger and Murray dug out the numbers on U.S. unfair imports cases — how many, against which countries, with what result — to find out how the United States uses antidumping and countervailing duty actions to regulate imports.

They describe the procedures followed by the Commerce Department and the International Trade Commission, survey cases and outcomes in the 1980s, and analyze what drives the unfair trade laws.

The pattern of petitions and results, they conclude, suggests strongly that injury to U.S. producers beset by import competition is what the antidumping and countervailing duty laws are about.

That is why the pattern of antidumping cases is not particularly different from the pattern of antisubsidy cases — and why the frequency of cases against politically powerful countries is the same as the frequency of cases against politically weaker ones.

The political strength of the exporting country does influence the *form* of import restriction the U.S. government will use.

A powerful country will receive the courtesy of a negotiated settlement. A less powerful country will in due course receive determinations through normal administrative procedures.

In short, unfair trade cases are where the action is because they are broad enough to handle all the action.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade and its implications for the continued openness of the international trading system and its continued functioning as an important vehicle for development. Please contact Nellie Artis, room N10-013, extension 38010 (25 pages with tables).

402. The GATT as International Discipline Over Trade Restrictions: A Public Choice Approach

J. Michael Finger

Postwar institutions held at bay the dominance of producer interests over consumer interests. But producer pressures toward protection are now dominant and even with the emergence of market-opening instruments like "301" the forecast for free trade is pessimistic: a buildup of trade restrictions and fewer breezes to disperse them.

The General Agreement on Tariffs and Trade (GATT) was built on a mercantilist sense of economic welfare and a mercantilist sense that domestic producers had a higher claim than foreign producers to the domestic market.

The trade negotiations process did not attack this claim. It gave producers in each country an opportunity to increase its value through mutually beneficial exchanges with producers in other countries.

The process worked as long as institutions forced all producers in a country (import competing and exporting) to reach a collective decision on trade policy — as long as the trade remedies were subjugated by strategic and diplomatic concerns so that they did not give import competing interests an alternative.

Pressure from import competing producers, whose interests are netted out in the trade negotiations process, eventually expanded the trade remedies into a policymaking institution that now eclipses the trade negotiations.

Another mutation of GATT institutions has begun with the development in the United States of "301" — which provides a way for exporting producers to advance their interests without bearing the burden of suppressing or buying off import competing interests. Indeed, "301" attacks foreign restrictions not with the possibility of *fewer* U.S. restrictions, but with the threat of *more*. Trade remedy processes have been installed in many countries, so "301s" should not be far behind.

The GATT system was devised to promote global security and free trade. It has been altered until, in the present system, export interests will generate trade conflicts and import competing interests will generate trade restrictions.

Simply put, the institutions that shape the relevant public choices do not bring out the appropriate economic interests, and the resulting policy choices are not those that promote economic efficiency.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade and its implications for the continued openness of the international trading system and its continued functioning as an important vehicle for development. Copies of the paper are available free. Please contact Nellie Artis, room N10-013, extension 38010 (27 pages).

403. Innovative Agricultural Extension for Women: A Case Study in Cameroon

S. Tjip Walker

In Cameroon's poor Northwest Province, agricultural extension was extended to women for practical, not ideological, reasons — in a sustainable, replicable experiment that increased production and women's income.

Women are responsible for 70 percent of staple food production in Africa, but agricultural extension is still geared to men. The North-West Development Project in Cameroon demonstrates that this scenario of neglect is avoidable.

The project design team that set out to improve agriculture in Cameroon's poor Northwest Province did not extend extension and credit to women for ideological reasons. Food crops were a primary concern, and women were growing them.

Despite stiff academic requirements, the ratio of female extension workers increased to 18 percent for workers and 14 percent for supervisors. Before the project, the few female workers had been restricted to home economics and kitchen gardens. After three months of intensive training, female agents did as well as men.

The project worked more through contact groups than contact farmers. The advantages: cost-effectiveness, the benefits of group dynamics, and the shared use of expensive equipment. And groups allow socially acceptable contacts with male agents, a supportive environment, a chance to develop leadership and management skills, and the use of more effective communication methods.

Maize credit was given to producer groups whose membership is 90 percent female. The members have collective liability for the loans and achieved virtually 100 percent repayment each year.

The short-term strategy of "gender targeting" was often used. Groups were initially contacted by same-gender extension agents. Once trust and credibility were established and farmers knew the system, the same-gender agent could turn an area over to an agent of the other gender.

These and other techniques used in Cameroon are widely replicable, providing three principals are observed: focusing on small farmers, redressing male biases, and recognizing women's roles.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to document cost-effective ways of raising the productivity of women farmers in Africa. Please contact PHRWD, room S9-133, extension 33752 (53 pages with tables).

404. Chile's Labor Markets in an Era of Adjustment

Luis A. Riveros

A segmented labor market, an inadequate institutional framework for labor, and a distorted real exchange rate were at the root of persistent open unemployment in Chile. A better macroeconomic management and a more adequate regulatory framework for the labor market were critical to successful adjustment in the 1980s.

In the 1970s, Chile underwent profound structural changes in market regulation, public sector policies, and foreign trade.

These changes produced notable economic strain and high open unemployment. After the financial crisis of the 1980s — by means of an export-led structural adjustment program that supported high real exchange rates and promoted investment — the Chilean economy adjusted successfully and resumed economic growth.

Riveros describes the important role labor markets played in the adjustment process.

Expenditure-switching and expenditure-reduction policies are important in interpreting the observed performance of labor market variables. Riveros econometrically estimates an analytical model to study the impact of those policies on wages, unemployment, and investment. He concludes:

Segmentation of the Chilean labor market, combined with an inadequate institutional framework for the labor market and a distorted real exchange rate, have been at the root of the persistent open unemployment problem.

Because of existing labor market segmentation, macro policies have probably increased the wage gap between the formal and informal labor markets.

A more adequate regulatory framework for the labor market was probably instrumental in achieving a more equitable and effective adjustment program.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to identify typical labor market policies in LDCs, specifically those affecting wage flexibility and labor mobility. Please contact Raquel Luz, room N11-057, extension 34303 (41 pages with tables).

405. Investments in Solid Waste Management: Opportunities for Environmental Improvement

Carl Bartone, Janis Bernstein, and Frederick Wright

Despite heavy municipal spending on solid waste management, most cities fail to provide efficient, reliable, universal collection services or environmentally safe disposal — at high costs to public health and the environment. Bank lending should emphasize strategic service planning, better institutional arrangements, more efficient management and finances, and environmental protection.

Municipal solid waste management (MSWM) should protect the environment, safeguard health, and improve productivity. In most developing countries, however, solid waste services consume between 20 and 50 percent of operating budgets for municipal services yet are unreliable, do not reach everyone, and do not provide safe disposal.

The World Bank has financed MSWM improvements through freestanding solid waste projects and components in broader projects. But the total costs of solid waste components in 71 projects during FY74-88 was about $532 million, or only 0.3 percent of Bank lending. And component design and performance have been largely disappointing.

The low level of borrowing for the MSWM sector — considering high municipal spending on MSWM — is attributable to the sector's labor-intensiveness (and relatively low foreign exchange potential); most cities' failure to appreciate the true cost of MSWM services; the difficulty local governments have getting access to capital; and the failure of many Bank projects to include an MSWM expert.

Early Bank projects provided limited funds to procure collection-related equipment. They had little impact on the quality or efficiency of service delivery. In the past five years, Bank lending for MSWM has increased and broadened — and the potential for its effective expansion is evident.

Bartone, Bernstein, and Wright recommend that:

- The Bank adopt a comprehensive policy framework for designing solid waste components or projects that focus more attention on upgrading institutional arrangements, including private sector delivery of services; the financing of capital investments and recurring costs; pricing for better cost recovery; and environmentally safe disposal (including proper management of hazardous wastes).
- Components finance plans addressing the full range of solid waste services and related management activities.
- The Bank help establish financial intermediaries (such as municipal development banks) to support comprehensive MSWM activities, among other urban investments.
- For publicly-provided services, both primary and secondary collection operations be supported, with special emphasis on vehicle selection and maintenance. For low-income areas, they recommend supporting low-cost community-based technologies.
- Land acquisition — for disposal sites and other facilities — should be a condition of loan effectiveness. So should use of only agreed-upon equipment and vehicles.

• Expansion of collection capacity be balanced by investments in nonpolluting disposal facilities.

• Appropriate regulations be established — few in number, transparent, easily understood, equitable, and economically and physically sensible.

• Costs be recovered through mandatory "benefit taxes" (in residential areas) and variable user charges (higher for better services) for commercial and industrial firms.

This paper — a product of the Urban Development Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to develop a policy framework for the urban environment. Please contact Sriyani Cumine, room S10-141, extension 33735 (84 pages with tables).

406. Township, Village, and Private Industry in China's Economic Reform

William Byrd and Alan Gelb

The rapid growth of rural nonstate industry — a sector of community-based firms — has been the most striking recent economic phenomenon in China, next to the decollectivization of agriculture. For the further development of the sector, defining property rights and gradually opening capital and labor markets are priority tasks.

Next to the decollectivization of agriculture, the most striking economic transformation in China since 1978 has been the rapid growth of rural nonstate industry.

Firms in this sector (referred to here as TVPs) are owned by a hierarchy of local government units below the county level: towns (or townships), villages, and production teams (or, to a lesser extent, private individuals and groups). TVPs owned by township or village governments (that is, not privately owned) are termed TVCEs.

Important both to industry and the rural economy, TVPs have been at the forefront of economic reform. They are market-oriented in terms of output and input and, because of their tiny home markets, outward-oriented.

There appears to be a close relationship between individual incomes and firm/community economic performance. Most individuals expect to stay in their firms for relatively long periods. In some ways, TVPs seem to resemble the so-called Z firms, rather than private or state enterprises.

Community incentives for promoting TVPs are strong. But their community orientation leads to certain problems, resulting from the fragmentation of markets for capital and labor and the multiple, sometimes conflicting, roles of community governments.

Even if resources are used efficiently within rural communities, the immobility of factors of production can lead to increasingly serious misallocations and inequalities between communities.

A gradual opening of capital and labor markets is a priority task in the next stage of reform. Weakening the involvement of community governments in management of rural industrialization is likely to be gradual and take a long time. A stronger legal framework in which TVCEs and private firms can operate will be needed.

National government policy should be to minimize discrimination by government, legal, and regulatory apparatus against TVPs and, within the TVP sector, against private enterprise. The long-term goal should be elimination of differential treatment.

This paper — a product of the Socialist Economies Division, Country Economics Department — is part of a larger effort in PRE to study the reform processes at work in socialist economies. Please contact Kang Chen, room N6-039, extension 38966 (40 pages with tables).

407. Public Enterprise Reform: A Challenge for the World Bank

Ahmed Galal

How can the Bank refine its help to countries embarking on reform of public enterprises?

Public enterprises (PEs) — state-owned or state-controlled productive entities whose output is sold mostly in the marketplace — earn an average 10 percent of GDP in developing countries (17 percent in African countries, 12 percent in Latin American countries, and 3 percent in Asian countries).

Many governments are reexamining the role of the state, so questions about whether to divest PEs or make them more efficient are likely to intensify. The Bank will increasingly be called upon for advice and financial support in managing the transition period. Galal recommends that the Bank:

• Maintain its focus on rationalizing the size of PEs, by liquidating nonviable PEs and transfering their ownership or control to the private sector, if that will make them more efficient. In helping countries improve the efficiency of PEs that remain public, the Bank should emphasize both policy framework and institutional set-up, and restructuring of individual enterprises.

• Extend its analysis of PEs to the socialist economies, explore the relationship between PEs and the private sector, and study how best to phase and sequence PE reforms.

• Refine PE reform components and tools, especially in terms of the phasing and sequencing of price liberalization and competition; the budgetary impact of PEs (their costs versus their revenues — and here Galal discusses the "waterbed effect," how holding down costs in one area raises costs in another); and the valuation of PEs for divestiture.

• Learn more systematically from experience by analyzing the outcomes of PE reforms; the performance of divested PEs; the effects on efficiency of staff reductions; and the effectiveness of program contracts on enterprise efficiency.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to: (i) review past efforts in institutional development, (ii) determine where these efforts have succeeded and where they have done poorly, and (iii) suggest how the World Bank and its borrowers can better create and strengthen an appropriate institutional framework for economic development. An earlier version of this paper was presented at a conference on Institutional Development and the World Bank, held in Washington DC in December 1989. Please contact Gloria Orraca-Tetteh, room N9-069, extension 37646 (47 pages with tables).

408. Methodological Issues in Evaluating Debt-Reducing Deals

Stijn Claessens and Ishac Diwan

Here is a simple method for identifying the best debt deals a country can bargain for with its creditors when debt reduction and new money are the only options available.

The novelty and complexity of menu-based debt reduction deals under the Brady Initiative make it difficult to see through the smoke and mirrors of financial engineering. Claessens and Diwan explain the essentials.

They explain the building blocks for analyzing debt deals, discuss common pitfalls, and introduce the concept of the debt value curve. They analyze in detail the main instruments available for debt reduction: buybacks; an exchange of foreign debt against another foreign asset with different terms; and an exchange of foreign debt against a domestic asset (a debt-equity swap). They describe how to put the different elements of a deal together to arrive at a suitable balance between debt reduction and liquidity. And they discuss the impact of senior lenders on debt deals.

They emphasize two fallacies in voluntary debt reduction deals:

• That voluntary market-based mechanisms are always good for all. The advantage of market-based mechanisms is that they get around collective action problems — but they don't necessarily benefit everyone.

• That the mere existence of a discount on the secondary market is a sufficient condition for buybacks that are profitable for a debtor.

Drawing on applications in Mexico, Costa Rica, and the Philippines, Claessens and Diwan present a simple method for identifying the best debt deals, in terms of debt reduction and liquidity, a country can bargain for with its creditors when debt reduction and new money are the options. They emphasize that the provision of new money is best viewed as a concession by non-existing creditors in exchange for the value increase of their existing debt on account of the debt reduction.

Now the challenge is to identify the deal that is best for the country (given its preferences about liquidity versus debt reduction) *and* that will be acceptable to its creditors. That will require a general equilibrium macroeconomic model to analyze a country's investment, growth, and repayments behavior when the country has a foreign credit constraint and a debt overhang. It will also require a better understanding of how banks make a choice when presented with a menu of options.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the responses of commercial creditors to different debt restructuring deals, so as to design deals which are more favorable for the country. Please contact Sheilah King-Watson, room S8-025, extension 33730 (37 pages with graphs and tables).

409. Financial Policy and Corporate Investment in Imperfect Capital Markets: The Case of Korea

Mansoor Dailami

The vigorous expansion of corporate real investment in Korea in the 1980s despite high real interest rates owes much to the rapid growth of the stock market and its increasingly important role in supplying equity capital to the corporate sector.

First, assuming that debt capital has been subsidized through both taxation and regulatory interest rate policy, corporations have drawn on the stock market to finance their marginal investment projects.

This reliance on new share issues as the marginal source of financial capital is consistent with the observed relationship between stock market price movements and corporate investment behavior. It also explains Dailami's inability to establish a statistically meaningful relationship between corporate investments and profits — which would have been the case had corporations funded their investments at the margin through retained earnings.

The marginal profitability of investment in Korea is high, or has been shifting upward. Otherwise it would be difficult to justify corporate reliance on relatively costly external equity as a marginal source of funds.

Second, the real aggregate stock market price, rather than the average q, or even the average rate of profit, is the preferred proxy for the theoretically appropriate — but unobserved — marginal q in explaining corporate investment behavior. The link between stock market and real economic activity has been particularly evident in the 1980s, when rapid growth of the market has been accompanied by vigorous economic growth and a boom in corporate business investment.

Third, corporations in Korea have used low-cost debt to finance investments in financial assets as well as in physical and productive assets. These financial assets — liquid assets (cash, bank deposits, and government securities), other companies' shares, and accounts receivable — are known to account for relatively more (42.6 percent) of total corporate assets in Korea than in the United States (24.3 percent) or the United Kingdom (37.8 percent).

To the extent that external equity is the corporate sector's marginal source of funds, what is relevant in determining incentives for new investment is what determines the cost of equity (such as taxation of dividends and capital gains) plus the procedure for pricing new share issues.

Policy should cater increasingly to the requirement of developing equity markets, including measures to change the method of pricing new share issues from the prevailing par- value based system (or premiums thereof) to a system based on market forces. The existing par-value pricing procedure has evidently been an important factor behind the high cost of external equity capital in Korea and a potential source of speculation.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to understand the role of capital markets in the growth and adjustment process of developing countries. Please contact Maria Raggambi, room N9-041, extension 37657 (47 pages with tables).

410. The Cost of Capital and Investment in Developing Countries

Alan Auerbach

A model for evaluating how policy changes might affect incentives to invest in developing countries.

Auerbach's model can be used to evaluate how current and new policies might affect incentives to invest in a developing country.

It takes into account factors that are often ignored in analyses of investment in more developed countries — such factors as risk, foreign tax provisions that affect capital flows, the prevalence of trade distortions, the lack of domestic capital markets, and the relative credibility of government policy changes.

The author reviews the literature on investment and the cost of capital, showing how the effects of tax and nontax government policies should be incorporated in any analysis of investment behavior.

The methodology is more general than calculations of tax wedges and effective tax rates. It should help developing countries measure the efficacy of current policies, predict how policy changes may influence investment, and determine appropriate directions for reform.

This paper is the first in a series of papers commissioned by the Tax Incentives for Industrial and Technological Development Research Project of the Public Economics Division. Researchers on this project have focused on the following questions:

For each dollar of forgone tax revenues, how much have tax incentives stimulated investment?

Do taxes affect foreign investment in developing countries? Do they influence foreign business locations? If they do, what instruments best stimulate the most investment per dollar of tax revenues lost to the host country?

How do taxes affect industrial production? How have tax instruments affected the use of labor? How have they affected physical, research, and development capital?

How have business taxes and tax expenditures (forgone revenues) affected technological change, the expansion of private output, and after-tax profits?

Are these tax-induced distortions preventing firms from holding optimal levels of fixed factors?

Given the empirical estimates obtained in this study on factor substitution, a bias toward technical change, and scale economies, what revenue-neutral alternative tax policy environment would encourage growth and productivity?

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote sound public policies in the development of the private sector in developing countries. Please contact Ann Bhalla, room N10-059, extension 37699 (43 pages).

411. Institutional Dimensions of Poverty Reduction

Lawrence Salmen

Efforts to reduce poverty would be more successful if they were energized more by demand than supply — by seeing the poor less as beneficiaries of government largesse and more as customers working their way out of poverty.

The Bank's central operating paradigm, writes Salmen, is the "miracle of the market" — those who need goods and services offer prices that stimulate others to supply them. The principle of demand organizes service delivery to the rich and powerful, who use their purchasing power or connections to stimulate those services that interest them.

But people-oriented service organizations are usually supply-driven providers that try to induce clients to consume what is judged to be good for them. Experience suggests that poverty-reduction efforts would be more successful if they were energized more by demand than supply.

The Bank should see the poor less as beneficiaries, passively receiving government largesse, and more as customers who they can help enable to pay the costs — with their time, labor, and capital — for what they see will better their own lives.

Rather than gather only numbers, the Bank and its borrowers should try to understand and support the informal institutions through which poor people act. It should take advantage of such qualitative techniques as focus group interviews, social marketing, beneficiary assessment interviews, and participant observations (successful uses of which Salmen describes).

The Bank should encourage the development of a "thickening social web" of nongovernment organizations (NGOs), including community associations, cooperatives, church groups, peasant leagues, and the like.

The Bank should use more local personnel — including local independent consultants (individually or through NGOs or research institutions) — to understand grassroots realities that Bank staff have difficulty mastering in several two- or three-week missions a year. Failure to understand local formal and informal institutions can mean an operation does not take hold or is unsustainable.

The Bank should more fully use country Bank offices to gather information on local conditions and institutions. A research analyst posted in Bolivia for a year, for example, came to understand the involvement of local institutions, particularly NGOs, as mechanisms for outreach to the poor.

In staffing, there is no substitute for exposure to the poor if the goal is to understand poverty and what might be done about it. Some aspects of poverty defy objective analysis — for example, the fear of debt that arises from insecurity about unstable employment and earnings, and the importance of the family in shaping school attendance rates and family planning decisions.

Practical ways to provide this exposure include staff sabbaticals geared to increasing Bank staff exposure to poverty conditions and activities, and allowing more exploratory time during project identification to do reconnaissance work off the beaten path.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to assess the institutional aspects of development, particularly regarding public sector management. Please contact Ernestina Madrona, room N9-061, extension 37496 (38 pages).

412. Exchange Rate Policy in Developing Countries

W. Max Corden

In general the best approach to exchange rate policy is the "real targets" approach, although the nominal anchor approach is appropriate for certain situations. The exchange rate should follow rather than lead, it should be linked with appropriate noninflationary monetary policy, and if it must change, it should change quickly.

After comparing the "real targets" and the "nominal anchor"* approaches to exchange rate policy in developing countries, Corden offers four basic recommendations:

In general the best approach to exchange rate policy is the "real targets" approach. The exchange rate should follow rather than lead — taking into account shocks or variables in fiscal and trade policy and changes in terms of trade.

Exchange rate policy should be linked with appropriate noninflationary monetary policy. Normally there must be a commitment to anti-inflation objectives if inflation is to be avoided. Without such a commitment, if monetary policy is inflationary, exchange rate policy must still be aimed at the real target — the real exchange rate — unless there is reason to believe that such a target would significantly reduce the commitment to anti-inflation.

Because capital is so mobile, delayed exchange rate adjustments must be avoided. If the rate must change, it should change quickly.

The nominal anchor approach may be useful in two kinds of countries — at opposite ends of the inflation spectrum.

- Countries that have long-established fixed exchange rate systems — with occasional devaluations and with relatively noninflationary records — may be well advised to stay with such a system, since their commitment will be credible. One thinks especially of Thailand, perhaps Indonesia, and some African countries in the franc zone.
- Countries with histories of high inflation that are now ready to stabilize — to commit themselves to radical policy shifts (one thinks of Argentina, Brazil, and Mexico) — may find a fixed exchange rate (or an active crawl) a valuable anchor. It should constrain government monetary policies and help achieve credibility with the markets, including the labor market. But countries that choose a fixed rate regime or an active crawl must recognize that there is a kind of "exchange-rate-adjusted Phillips curve" tradeoff: at least for a short time, misalignment of the real exchange rate is quite likely.

* The real targets approach, orthodox in the World Bank, assumes that nominal exchange rate changes have prolonged real effects and that the exchange rate should adapt to other policies. Fiscal expansion, for example, may require depreciation or appreciation, depending on the circumstances. With the nominal anchor approach, the exchange rate is used as an instrument of anti-inflation policy — as a way of constraining domestic policies and influencing private sector reactions. But governments can temporarily evade the exchange rate constraint through import restrictions or foreign borrowing.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to improve the understanding of the role of exchange rate policy on economic adjustment. Please contact Max Corden, room N11-023, extension 39175 (43 pages with figures).

413. Supporting Safe Motherhood: A Review of Financial Trends — Full Report

L. M. Howard

Almost 500,000 women a year from developing countries die from pregnancy-related causes. In 1987, an international conference in Nairobi, Kenya launched a global Safe Motherhood Initiative with World Bank co-sponsorship. By 1989, how were the donors responding to the Initiative?

Financial trends for safe motherhood initiatives. Problems of definition and accounting methods preclude an accurate analysis of financial trends among donors. Global support for specific safe motherhood activities is limited. For the 17 major bilateral sources, funding for selected activities which contribute to safe motherhood is estimated to have increased (in current dollars) from $691.5 million in 1986 to $818.8 million in 1988. About half this amount was for so-called core* activities, including family planning services. The magnitude of support for prevention of the complications of pregnancy is less certain. General health, population, and nutrition sector flows increased substantially over the same period. These trends were positive for 13 sources, unchanged for three, and negative for one.

Of the six major multilateral sources, totals for selected safe motherhood activities were estimated to be $477.7 million in 1988, a 41.7 percent increase over 1987 and a 17 percent increase over 1986, reflecting differences in the annual volume of World Bank loan approvals. Half of this went for core services, primarily family planning.

Estimated World Bank safe motherhood expenditures in 1989 are triple the previous year's total. This is due primarily to substantial increases in general loans for health, population, and nutrition. New specific safe motherhood activities are beginning to emerge in the form of care for the complications of pregnancy, better secondary and tertiary facilities, training, and promotional workshops.

The magnitude and effectiveness of donor financing will require more attention to two special problems:

- Strengthening recipient countries' ability to articulate project demand — providing specific training, technical advisory assistance, and operational guidelines for mobilizing financial resources.
- Improving the data on safe motherhood financial trends — establishing a consensus on definitions; seeking a consensus on financially measurable program or project categories of safe motherhood; defining methods for the systematic collection of donor and recipient country data on financial trends.

* At the 1987 Conference on Safe Motherhood in Nairobi, Herz and Measham recommended a core program for safe motherhood that included reducing the number of pregnancies through family planning education, promotion, and community-based services; reducing the risks to pregnancy and childbirth; providing prenatal care, supervised deliveries, screening, and referral for high-risk mothers; and providing communication and transportation for complicated deliveries.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to promote policy and resource commitment to the Safe Motherhood Initiative. Please contact Otilia Nadora, room S6-065, extension 31091 (50 pages with figures and tables).

414. Supporting Safe Motherhood: A Review of Financial Trends — Summary

L. M. Howard

Refer to WPS 413 for the abstract.

WPS 413 contains the full section on Interview Notes with different financing sources.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to promote policy and resource commitment to the Safe Motherhood Initiative. Please contact Otilia Nadora, room S6-065, extension 31091 (16 pages with figures).

415. How Good (or Bad) are Country Projections?

Norman Hicks and Michel Vaugeois

Country projections are routinely used to describe likely prospects for national accounts and balance of payments aggregates. However, an examination of those undertaken during the 1983-85 period shows that they are often overly optimistic, and that there are wide variations between projected and actual outcomes. This raises serious questions about the utility of these projections for making judgments about future prospects and creditworthiness.

Bank economists routinely undertake projections of national accounts and balance of payments for their countries, and these appear as part of the Bank's Country Strategy Papers. Since these projections are used to form judgments about country prospects and creditworthiness, it is important to know how accurate they forecast the future, and what biases exist in the process. The general view is that these projections are often optimistic in terms of their expectations of favorable results.

This note examines projections done during the 1983-85 period, and compares the projected levels of GDP, imports, exports, terms of trade, savings and investment with the actual outcome for the same period. The principal conclusions are that for this period:

- GDP projections tended to be optimistic (4.2 percent projected average versus 2.9 percent actual);
- Projected export volumes, however, tended to be slightly lower than the actual outcome (6.1 percent versus 6.4 percent);
- The actual terms of trade deterioration (-4.8 percent) was somewhat worse than expected (-0.2 percent), but there were extremely wide variations among countries;
- Investment and savings rates were both slightly overestimated, but with significant variation among countries;
- On a regional basis, projections of GDP growth in African countries had the greatest overestimation;
- Resource gaps, or capital inflows, were about what was expected; but
- Investment efficiency, measured by incremental capital-output ratio was much worse (6.8 percent versus 4.9 percent) than expected.

The overall conclusion is that biases introduced by country economists into the projections because of an overly optimistic view of their countries is only part of the problem; inaccurate forecasts of export and import prices, export volume growth, and external resources are also a source of errors. The likelihood of wide variations between projections and actual events suggests that the use of these projections for judgments about creditworthiness and country risk could be misleading. Not only are improvements needed in country modeling, but equally important are improvements in the forecasts of external environment facing developing countries.

This paper — a product of the Strategic Planning Division, Strategic Planning and Review Department — is part of PRE's ongoing mandate to undertake periodic reviews of Country Strategy Papers. Please contact Maxine Berg, room S13-141, extension 31058 (17 pages with tables, an annex, and appendices).

416. Improving Data on Poverty in the Third World: The World Bank's Living Standards Measurement Study

Paul Glewwe

An account of the World Bank's ambitious effort to collect household-level data on poverty in developing countries — and of what that data are beginning to say about the effects of government policies on living conditions of the poor.

The starting point for reducing world poverty was to provide accurate, up-to-date data on poverty in developing countries. The sparse, outdated data previously available were often of dubious accuracy and usually unavailable in a form useful for policy analysis.

One of the most ambitious attempts to improve the quality of data collected at the household level from developing countries is the Living Standards Measurement Study (LSMS) program, which the World Bank launched in 1980.

The main objective of LSMS surveys is to provide household-level data for evaluating the effect of various government policies on the population's living conditions — in studies, for example, of the impact of education on nutrition, the effect of health on employment, and the relationship between income and fertility.

After describing how the LSMS began and how data are collected, Glewwe presents selected results. Some general trends have emerged in studies of five of the six countries for which LSMS data are available:

Most of the poor are in rural areas; the fraction of the poor population in rural areas is always substantially higher than the fraction of the total population in rural areas.

Most of the poor are in households in which the head works in agriculture. The heads of poor households are most likely to be self-employed, especially in Africa. (Very few heads of poor households work for the government, so freezes on government wages are unlikely to hurt many of the poor.)

The heads of poor households have low levels of education — most of them elementary education or less, and in some (particularly African) countries no education at all.

Glewwe also presents selected results of studies on the persistence of poverty, and of studies of the effects on the poor of structural adjustment, of food stamps and food subsidies, and of raising user fees for health care and education.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to examine the causes and consequences of poverty in developing countries. Please contact Angela Murphy, room S9-137, extension 33750 (36 pages with tables).

417. Modeling the Macroeconomic Requirements of Policy Reforms

William Easterly, E. C. Hwa, Piyabha Kongsamut, and Jan Zizek

The macroeconomic requirements of policy reforms can be determined through an extension of the Bank's RMSM model to include fiscal and monetary variables and behavioral functions.

Easterly, Hwa, Kongsamut, and Zizek assess the macroeconomic policy regime required for structural economic reform in trade and financial policy. To do so, they develop a macroeconomic model for deriving the appropriate stance on macroeconomic policies needed to support structural reform measures in trade and finance.

The macroeconomic projection model of Colombia they use is an extension of the Bank's Revised Minimum Standard Model (RMSM) currently in use. They enrich the traditional RMSM by adding fiscal and monetary identities as well as behavioral functions for the following variables: private consumption, private investment, money demand, demand for quasi money, export supply, and import demand.

They illustrate how the *basic* model functions by comparing three simulations to a base case run, increasing the targets for three variables: the real exchange rate, the real interest rate, and the inflation rate.

All three simulations increase the financeable fiscal deficit, but in different ways. A target of real exchange rate appreciation increases it by making more foreign credit available to the public sector. Higher targets for real interest and inflation rates increase it by making more domestic credit available.

They then extend the model to take into account the external financing constraint facing the government and the economy, and by adding detail on the tax and banking systems. They use the extended model to discuss macroeconomic adjustments needed for policy reform being considered in Colombia for trade (reduced tariff rates and relaxed import quotas), finance (reduced reserve requirements and forced investment requirements for the banking system), and reducing inflation.

All the policy reforms require fiscal adjustment to be consistent with available financing. For example, reduced tariff rates mean lost revenues, which must be compensated by revenue increases elsewhere or spending cuts. The incipient increase in import demand because of reduced tariffs requires more currency depreciation, although not as much as the increase in the tariff rate. Quota reduction also requires some currency depreciation.

All scenarios require reducing public investment if no other fiscal measures are taken. Since reducing public investment lowers growth, these simulations dramatize the need to pursue fiscal reforms that compensate for the adverse fiscal effects of trade or financial liberalization without reducing urgent social spending or investments in public infrastructure.

The model does not try to capture the favorable effects of reform on efficiency and growth, which other evidence suggests would be large enough to raise growth in the long run even if there were an ill-advised reduction in public investment.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to develop a macroeconomic projection model that will improve and extend the Bank's RMSM model. Please contact Raquel Luz, room N11-057, extension 34303 (82 pages with figures and tables).

418. Does Devaluation Hurt Private Investment? The Indonesian Case

Ajay Chhibber and Nemat Shafik

In the short run, devaluation hurts private investment because higher real import costs for capital and intermediate goods limit private sector profitability. In the long run, the recovery in tradable goods sectors increases profitability and private investment recovers. But how long is the long run?

Devaluation affects investment because of its effect on the real supply price of capital goods; the real price of imported inputs, which together with capital goods are used to produce output; the real product wage and thereby profitability and investment; real income, which affects the demand for domestically produced goods; and nominal and real interest rates, which in turn affect investment.

Information on the short- and long-term effects of devaluation are critical in designing adjustment programs — particularly in assessing the appropriate amount of external assistance — because the short-term effects may be radically different from the long-term effects.

In the short run, the real cost of imported capital and inputs increases, which hurts private sector profits and dampens investment. In the long run, real exchange rate depreciation leads to a restructuring of private industry to meet rising export demand, efficiency improvements increase profitability, and private investment recovers quickly.

But how long are the short and long runs?

Chhibber and Shafik, using an econometric model of the Indonesian economy, found that Indonesia adjusted in about two or three years — which is a relatively quick turnaround compared with other countries undergoing adjustment.

In the opinion of the authors, the credibility of Indonesia's economic policies played a key role in Indonesia's turnaround. By orchestrating comprehensive reforms in taxation, the financial sector, and the exchange rate, the Indonesian government sent a clear signal to the private sector that lent credibility to its adjustment efforts. This was also crucial to the recovery of investment and the restoration of growth.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the response of the private sector to policies, so as to better design adjustment programs. Please contact DECVP, room S9-021, extension 33490 (43 pages with figures and tables).

419. The Design and Sequencing of Trade and Investment Policy Reform: An Institutional Analysis

Brian Levy

How different levels of political commitment and different degrees of organizational capability affect the design, sequence, and outcomes of trade and investment policy reform in twelve Bank-supported countries.

Adjustment faces political obstacles to the extent that it imposes costs on groups within society that are important to government or threatens the stability of a regime.

It faces organizational obstacles to the extent that it imposes tasks that government bureaucracies are incapable of meeting.

Political obstacles can undermine decisions about the extent of reform and efforts to implement reform. Organizational obstacles affect mostly implementation.

Levy argues that policy reform should be designed one way in countries with strong organizational capabilities but limited political flexibility and quite another way when the situation is reversed.

Organizationally strong but politically constrained countries should start with roundabout (indirect) but administratively intensive reforms as a way of building a constituency for subsequent liberalization — for example, promoting exports by setting up bonded export facilities and duty and tax drawback systems before trying to liberalize imports.

By contrast, countries with political flexibility but weak organizational capabilities—including many in Sub-Saharan Africa — should avoid roundabout measures. It is easier for them to dismantle poor regulations and interventionist institutions than it is to get them to stop constraining economic activity and start supporting it.

In politically flexible but organizationally weak countries, free entry should be favored over the establishment of one-stop shops to streamline bureaucratic requirements for new entrants; targeted investment incentives should be abolished rather than rewritten to favor socially efficient subsidization; and import liberalization should be pursued as much as possible, not finessed through support for exporters.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to examine the institutional dimensions of economic reform and the way they influence the supply response of the private sector. Please contact Brian Levy, room N9-059, extension 37488 (33 pages with tables).

420. Making Bank Irrigation Investments More Sustainable

Gerald T. O'Mara

It is time to rationalize policy guidelines on Bank irrigation projects.

Until 1976, Bank policy emphasized recovery of all costs on irrigation projects, or at least complete recovery of operating and maintenance (O&M) costs. Subsequently, policy specified three pricing objectives for the design of irrigation service fees: economic efficiency, income distribution, and public savings.

The objective of economic efficiency was framed in irrelevant terms and the detailed objectives for income distribution were unworkable. This left the objective of public savings — for which there are no clearcut instructions.

So between 1976 and 1988 no effective formal policy guidelines existed for cost recovery on irrigation — although the Bank was active in lending for irrigation in those 12 years.

No OED review of loan conditionality on cost recovery for irrigation has been produced for the period, but the 1986 OED review on the period before 1976 concluded that the record for the earlier period was not good.

In at least two-thirds of the projects reviewed, the covenant requiring cost recovery to cover at least O&M costs had not been honored. In many cases, the covenants covering cost recovery were so vague that it was difficult to judge if there had been compliance. Auditors found O&M of the irrigation satisfactory in only half of the projects.

Existing guidelines are inadequate, and the need for quality control is great, so O'Mara proposes six points as the basis for a new policy framework for Bank irrigation projects:

- Accept the diversity of cultures and institutional arrangements in borrowing countries and incorporate flexibility and ingenuity into the design of feasible irrigation institutions.
- Focus the Bank dialogue on the physical sustainability of irrigation investments and associated natural resources. In short, the Bank should be more flexible about institutional preferences but should insist more strongly on arrangements that preserve sustainability.
- Approach the financing of irrigation as a policy adjustment issue.
- Base cost-recovery policy on an analysis of the total complex of government interventions. Most countries prefer to impose direct and indirect taxes on agricultural commodity output although such taxes are often unjustified in terms of equity or cost recovery.

Decisions on the third and fourth points require thorough economic analysis.

- Assign tax policy instruments to appropriate policy objectives.
- Accept indirect cost recovery where it exists, but insist on an accounting of the equity issues associated with rent transfers for irrigation.

On the fifth and sixth points, analysis must take into account the welfare effects on the major groups involved. The appropriate objective for irrigation service fees (if there are no equity issues) is public savings or cost recovery.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to provide analytical reviews of major issues in the sustainability of natural resources and preservation of environmental quality. Please contact Cicely Spooner, room N8-035, extension 30464 (32 pages).

421. Taxation of Financial Intermediation: Measurement Principles and Application to Five African Countries

Christophe Chamley and Patrick Honohan

Hidden taxes on the financial system, such as interest rate ceilings, reserve requirements, and the currency tax are often heavier than explicit taxes. Interest rate ceilings may distort financial intermediation more than other taxes.

To measure distorting taxes (explicit and implicit) on the financial sector of five African countries, Chamley and Honohan view taxation more broadly than is customary.

They go beyond the currency tax and reserve requirements to include the quasi-tax effects of interest rate ceilings. Under this broader approach, the true scale of taxation on financial intermediation is much higher than is commonly appreciated.

The level of tax has varied widely over time and between countries, but has been a significant element in total government revenues, especially during fiscal crises induced by commodity slumps. Between 1978 and 1988, this kind of tax accounted for an average 4 percent to 7 percent of GDP in three of the less macroeconomically stable economies (Ghana, Nigeria, and Zambia) and close to 2 percent of GDP in the two more stable economies sampled (Côte d'Ivoire and Kenya). Expressed as a percentage of M2, the tax rate has gone as high as 90 percent.

By any reckoning, the financial sector has been more heavily taxed than other sectors. Even excluding the currency tax, which does not directly affect the banking system, taxes collected averaged the equivalent of several times the value added of the banking system in the three high-tax countries. That is a serious disincentive to financial intermediation and surely too high for economic efficiency.

Different types of tax distort behavior differently. In relatively less developed financial markets such as the five studied, interest rate ceilings may impose higher welfare costs than explicit taxes or reserve requirements.

Surges in inflation in the five countries correlated with high taxes on the financial sector. Governments reforming taxes on the financial system should consider building in mechanisms (adjusting administered interest rates, for example, or moving to explicit, such as value-added, taxes) to reduce the sensitivity of financial sector taxes to the inflation rate.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to examine the effects of economic regulation on the financial sector. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (83 pages with figures and tables).

422. Civil Service Reform and the World Bank

Barbara Nunberg and John Nellis

Some argue that the complexity and uncertainty of civil service reform place the field outside the Bank's comparative advantage. But a retreat from civil service management reform is tantamount to denying the crucial importance of government administrative capacity to implement economic and social programs. A more realistic approach is to try to learn, through trial and error, how to make such programs work better.

After reviewing civil service reform work in the Bank, Nunberg and Nellis reach certain conclusions:

The impact of Bank programs to contain the cost and size of civil services through emergency reform of pay and employment policies has so far been negligible. Reform efforts have not been ambitious enough; meaningful change will require more forceful reform. Middle-range measures such as voluntary departure schemes and early retirement programs are useful but are not a substitute for biting the bullet.

Whether more aggressive reform is feasible is partly a technical but mainly a political issue. But in the few countries where reform has been carried out, the political costs were lower than most governments (perhaps even the donors) expected. This may have been partly because of the surprising capacity of labor markets to absorb surplus government workers and partly because of the skillful handling of reform.

Functional reviews and competency testing provide symbolic assurance that the reform process will be fair. Retraining, redeployment, credit, and public works programs for redundant employees are symbolically and politically effective but have limited practical impact and are administratively difficult.

The Bank should no longer encourage or support mechanisms such as topping up executive-level salaries for key government posts unless such incentive schemes are part of an action strategy for long-term structural reform.

Technical assistance loans (TALs) for civil service management should probably provides twice the present amount of staff supervision and specialized expertise.

Such technical assistance loans require more time to prepare and implement than do infrastructure projects. They often get short shrift because of their dependence on the scheduling and requirements of structural adjustment lending. On the other hand, without SALs, many civil service reforms in TALs have no teeth.

Most Bank activities have concentrated on short-term cost-containment measures. More emphasis must be given to longer-term management issues if sustained improvement in government administrative capacity is to take place. More attention must be placed on devising a coherent, overarching strategy and detailed tactics for civil service reform.

Some argue that the complex and uncertain nature of civil service reform places the field outside the Bank's comparative advantage. They argue that the Bank should confine itself to helping define economically rational policies, such as the appropriate, affordable size of the wage bill.

But the Bank cannot identify the need to remove X thousand surplus personnel and assume that the job of removing them will be carried out by the government or a bilateral donor. The challenge for the Bank is to design projects that have measurable short-run cost-containment goals but realize them in the context of a strategy to solve the fundamental management problems in the long run.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to assess the Bank's accomplishments, problems, and prospects in the field of public sector management. An earlier version of the paper was presented at a December 1989 conference on "Institutional Development and the World Bank." Please contact Rose Malcolm, room N9-055, extension 37495 (50 pages with tables).

423. Relative Price Changes and the Growth of the Public Sector

M. Shahbaz Khan

The relative size of the public sector and the rate at which its size changes may be severely underestimated in developing countries and overestimated in developed countries, if the indicator for the size of the public sector is the ratio of current public spending to GDP.

Policy recommendations to reduce the growth of public spending are haunted by the inevitability of:

• Wagner's law — the hypothesis that with economic development an increasing share of GDP is devoted to public spending.

• Baumol's effect — the hypothesis that as economies develop, public sector prices rise faster than prices in the general economy.

Neither of these hypotheses has adequately been tested, largely because consistent public sector prices are unavailable for most developing countries.

Khan proposes that the unavailability of consistent public sector price deflators can be overcome by econometrically estimating these series with the help of data on public spending and the widely available GDP deflator. He uses this method to test both hypotheses. An analysis of time-series data from 71 countries indicates that:

• Although data support Wagner's law in the majority of developing countries, the degree of support varies with the level of development. In response to rising income, real public sector spending rises most in the low-income economies, less in the middle-income economies, and least in the industrial market economies.

• Similarly, the average income elasticity of public spending drops from 2.2 in the low-income economies to 1.6 in the middle-income economies to about 1.0 in the industrial economies. In the long run, the size of the public sector tapers off as economies develop.

This is mainly because of changing price levels in the public sector relative to price levels in the general economy. Although Baumol's effect cannot be observed in a majority of the countries, relative prices tend to fall rapidly in the low-income countries, less rapidly in the middle-income countries, and actually start rising in the industrial economies.

This is believed to be due to the differences in technological intensity between the public and private sectors, the strength of the government in negotiating input prices, and labor market conditions as countries move through different stages of development

This paper, a background paper for the 1988 World Development Report, is a product of the Office of the Vice President, Development Economics. Please contact the World Development Report office, room S13-060, extension 31393 (20 pages with tables).

424. Mexico's External Debt Restructuring in 1989-90

Sweder van Wijnbergen

Who in the end profited most from the official resources devoted to Mexico's last debt restructuring: Mexico or its commercial creditors? Mexico. But in establishing the basis for long-term growth the package seems a reasonable compromise between the conflicting interests of Mexico and its commercial creditors.

Mexico's suspension of debt service payments in August 1982 ushered in the international debt crisis. In two consecutive debt restructuring packages, in 1984 and 1987, Mexico began vigorous structural reform under the so-called Baker plan. Mexico's experience vividly demonstrates the strength of that plan and the reasons for its eventual failure — the fact that it was inherently a short-term process.

In December 1988, Mexico's President Salinas announced that external creditors were expected to contribute to a medium-term solution. In March 1989, the new U.S. Treasury Secretary, Brady, effectively legitimized the word "debt relief" in a speech that opened the way for the 1989 debt restructuring agreement that van Wijnbergen analyzes here.

That agreement offered commercial creditors the choice between exchanging old debt instruments for new instruments involving debt relief (lower interest rates or principal) but partially secured with collateral; or unsecured instruments without debt relief, but with a new money commitment attached.

Active debates on the merits of this package are often confused. In an extensive economic analysis, van Wijnbergen addresses the question: who in the end profited most from the official resources devoted to the deal: Mexico or its commercial creditors? He concludes:

Mexico made efficient use of the official funds available for debt reduction. The market value of the claims before enhancement declined by close to the full amount of the value of the additional foreign official resources devoted to the package. The rate of return on the use of official resources far exceeds the interest rate at which they were extended.

The market value after enhancement was basically the same as the market value of the outstanding claims before the deal — so Mexico's commercial creditors got a fair deal. The credit enhancement by and large made up for the debt relief. But no more than that — the official creditors' money benefited Mexico rather than its commercial creditors. The World Bank, the IMF, and the Government of Japan (which provided the official resources) achieved their objective of helping Mexico; the additional resources did *not* accrue to the creditors, which many feared and some deemed inevitable.

Finally, on the basis of available evidence, this package established the basis for sustainable growth in Mexico.

This paper is a product of the Country Operations Division, Latin America and the Caribbean Regional Office, Country Department II. Please contact Margaret Stroude, room I8-163, extension 38831 (33 pages with figures and tables plus 21 pages of annex).

425. Earmarking Government Revenues in Colombia

William A. McCleary
and Evamaria Uribe Tobon

Reducing and rationalizing the earmarking of government funds will give Colombia's government budget more flexibility. The extent of earmarking could be sharply reduced by limiting its application to revenue-sharing between levels of government and to cases where the benefit principle applies.

About 55 percent of total public income in Colombia is earmarked for specific areas of government activity. McCleary and Tobon recommend reducing the proportion and amount of earmarked funds to give the government budget more flexibility. Their recommendations would eliminate one quarter of existing earmarking and introduce greater flexibility for an additional one quarter. They further conclude that:

Earmarking should be limited to revenue- sharing and to situations where there is a clear connection between the source of revenue and the benefits of earmarked spending (for example, between payroll taxes and pension/disability benefits or between gasoline taxes and highway funding).

Even then the commitment to earmarking should not be open-ended. The automatic financing arrangement should be reviewed regularly and terminated automatically unless expressly renewed. This would force a review of pricing arrangements, of the quality of investments financed, and of the past and future growth of sector infrastructure relative to needs.

Payroll taxes should cover only social security. Colombia's payroll taxes add 24-29 percent to the cost of labor. Eliminating payroll taxes for non-social-security purposes would lower labor costs and probably take 0.5-1.0 percentage points off the unemployment rate.

Earmarking for PROEXPO, which finances subsidized loans for exporters, should be eliminated. There is little connection between those who pay import duties and those who benefit (exporters or foreign consumers). The level of duty is arbitrary so it is questionable whether the correct amount of export financing is provided, and the large subsidy differences among sectors distort the allocation of resources.

The earmarking of departmental taxes on alcohol, tobacco, and gambling for health, welfare, and sports are particularly strong candidates for elimination. There is no connection between taxpayers and beneficiaries in these arrangements and hence no indication of whether appropriate amounts of funding for these activities is being provided.

The relatively new tax allowance and sales tax transfer have played important roles in the government's effort to decentralize, the former for departments, the latter mainly for municipalities. These revenue-sharing arrangements need to be strengthened by eliminating anomalies in the sharing formulas, introducing more incentives for local resource mobilization, and strengthening municipal capacity to absorb the additional resources.

Earmarking that follows the benefit principle closely (the coffee fund, the gasoline tax, and the municipal valorization tax) can be continued, but in each case, modifications are suggested to make the arrangement work better.

Certain parts of the new Organic Law of the Budget related to earmarking should be implemented quickly — the limits on minibudgets, the prohibition of new earmarking from existing public resources, and the claim of the central budget on public enterprises' operating surpluses.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to improve the evaluation of government expenditure programs and the rationalization of public expenditures. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (88 pages with tables).

426. Growth-Oriented Adjustment Programs: A Statistical Analysis

Riccardo Faini, Jaime de Melo,
Abdel Senhadji-Semlali, and Julie Stanton

There is no statistical evidence that growth was faster — or slower — for countries that received adjustment loans. And there are no signs of sustainable recovery through higher investment — at least through 1986.

What happened to economic performance in developing countries under growth-oriented adjustment programs sponsored by the World Bank and the IMF?

Analyzing data for a sample of 93 countries, Faini, de Melo, Senhadji-Semlali, and Stanton compared the average values of economic indicators for 1982-86 with the corresponding values for 1978-81. They controlled for the external environment and initial conditions and allowed for policies that would have been adopted if the countries had not participated in adjustment.

They found no statistical evidence of faster (or slower) growth for the countries that received loans.

They found that a higher current account surplus and lower inflation during 1978-81 were associated with better investment performance during 1982-86. And that deterioration in the external environment in 1982-86 was associated with lower growth during that period.

They also examined the investment-output relationship for 14 countries that received sizable growth-oriented adjustment loans — estimating the growth forgone because of lower aggregate investment under adjustment.

They conclude that signs of sustainable recovery through higher investment were not evident, at least through 1986. But these results are not surprising, because considerable time must pass for the benefits of structural reform to materialize.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to analyze the sustainability of structural adjustment programs. The paper is part of the research project on trade reform in structural adjustment loans (RPO 675-32). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Ameal, room N10-031, extension 37947 (33 pages with tables).

427. Exchange Reform, Parallel Markets, and Inflation in Africa: The Case of Ghana

Ajay Chhibber and Nemat Shafik

This model using Ghanaian data shows that in the presence of an active parallel market, official devaluation does not cause inflation because prices have already adjusted to the parallel exchange rate. Although structural factors were important *in the past, inflation in Ghana has been primarily a monetary phenomenon and the product of weakness in the financial system in recent years.*

Adjustment programs typically involve a complex policy package that includes price liberalization, devaluation, and trade policy reforms — together with public enterprise and fiscal reform, including reduced subsidies and rationalization of public spending.

A common concern in these reform packages is the potential inflationary effects of the combination of devaluation, trade liberalization, subsidy reduction, and price decontrol. This issue is critical in Africa, where inflation has accelerated in several countries, particularly those undergoing adjustment.

Some argue that devaluation — an important instrument in IMF and World Bank adjustment programs — is not necessarily the best instrument for real exchange rate devaluation, given its inflationary effects and taking into account the structure of African economies. Some have criticized IMF and World Bank programs as leading to the so-called "Latin Americanization" of Africa.

In Ghana, which has carried out one of the most thorough structural adjustment programs in Africa, an increasingly high inflation rate has been attributed to major devaluations of the official exchange rate. Chhibber and Shafik dispute this conclusion based on careful testing and simulations using a macroeconomic model estimated with Ghanaian data.

The model results show that there is no direct relationship between the official exchange rate and inflation; prices had already adjusted to the exchange rate prevailing in parallel markets.

The results also show that official devaluation had a positive effect on Ghana's budget. Revenue improvements came from three channels: the higher grant aid disbursed at a more depreciated exchange rate, a reduction in the subsidies that had accrued to importers through an overvalued exchange rate, and an increase in export taxes as cocoa farmers increasingly marketed their output through official channels.

The official devaluation therefore did not produce higher budget deficits, demand pressure did not spill onto the parallel market, and the exchange premium narrowed considerably. The key to the success of the program was the adequate level of foreign financing, combined with a coherent set of fiscal policies.

Chhibber and Shafik argue that although inflation had structural causes in the past, the acceleration in recent years is primarily a monetary phenomenon. It also reflects weakness in the financial system that must be tackled to sustain reform.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the dynamics of inflation, exchange reform, and price decontrol in Africa. Please contact Maureen DECVP, room S9-041, extension 33490 (67 pages with figures and tables).

428. Perestroyka and Its Implications for European Socialist Countries

Bela Balassa

Perestroyka, introduced in the Soviet Union to reform the economy after the "period of stagnation" under Brezhnev, involves combining centralized planning with elements of a market economy. For it to succeed, certain micro and macro conditions need to be fulfilled.

Perestroyka, introduced in the Soviet Union to reform the economy after the "period of stagnation" under Brezhnev, involves combining centralized planning with elements of a market economy. For it to succeed, certain micro and macro conditions need to be fulfilled.

As far as micro conditions are concerned, one should emphasize the interdependence of rational prices, decentralization, profit maximization, incentives, and competition. For commodities produced domestically, the establishment of rational prices requires that prices equate demand and supply. This, in turn, necessitates the decentralization of decision-making and profit maximization by the firm. At the same time, managers would have to be provided with appropriate incentives in order to ensure that firms maximize profits. Finally, there is need for competition to guarantee that profit maximization does not lead to the exploitation of monopoly positions and inflation.

Various macroeconomic conditions also need to be fulfilled for perestroyka to succeed. The government should aim at realistic growth rates, establish a balance between investment and consumption, eliminate the overhang in the market for consumer goods and services, and drastically reduce the budget deficit.

At the same time, the success or failure of perestroyka will have implications for the success of reforms in the European socialist countries. And the performance of these economies will be affected by the increased demand for quality in the Soviet Union. But successful reform efforts on their part will help to meet this demand to exploit the opportunities offered by the vast Soviet market.

This paper — a product of the Office of the Vice President, Development Economies — is part of a larger effort in PRE to examine efforts made in socialist countries to reform their economies. Please contact DECVP, room S9-047, extension 33769 (22 pages).

429. Ghana's Cocoa Pricing Policy

Merrill J. Bateman, Alexander Meeraus, David M. Newbery, William Asenso Okyere, and Gerald T. O'Mara

Ghana's cocoa production declined because of policies that overvalued the domestic currency and heavily taxed cocoa exports. A variable rate tax on cocoa (above the critical level) that increases and decreases with the world price would distribute the price risk between cocoa farmers and the rest of society, stabilize cocoa farmers' real incomes, and let consumers share in windfall profits when world cocoa prices are high.

The long decline in Ghana's cocoa production — from half the market 25 years ago to one-tenth the market now — was associated with policies that overvalued the domestic currency, implicitly taxed cocoa exports, and ignored the realities of world markets.

This study addresses the dilemma Ghana's government faces: how to provide enough producer incentives to stimulate the cocoa exports Ghana needs for foreign exchange while maintaining the government revenues needed to avoid unmanageable fiscal deficits. The key may be identifying acceptable revenue alternatives to cocoa export taxes. Among conclusions the authors reach:

To maintain the right price incentives in the cocoa subsector, the exchange rate regime should be liberalized so that the prevailing rate always roughly equals the equilibrium level.

The government should explore shifting taxes from cocoa producers to all consumers by increasing taxes on appropriate consumer goods — especially those that are income elastic and price inelastic (such as gasoline, cars, and consumer durables).

A policy of low cocoa taxes and high cocoa production favorably affects the rural poor. Taxing cocoa farmers directly lowers their income, indirectly lowers the income of food producers, and transfers incomes from those farmers to food consumers —worsening income distribution.

It would probably help to stabilize the real producer price of cocoa. An attractive alternative is a variable rate tax on cocoa (above the critical level) that increases and decreases with the world price and would distribute the world market price risk between cocoa farmers and the rest of society (assuming revenue requirements are fixed). This would stabilize the real incomes of cocoa farmers and let consumers share in windfall profits from high cocoa prices.

The yearly cocoa buying price should always be set above 140 cedis (in 1987 prices) if the objective is to stimulate growth in long-term supplies.

COCOBOD should terminate its marketing activities for coffee, and all taxes on coffee exports should cease. Even with heavy taxation, net revenue from coffee is negative to the government under the current arrangement. Stopping coffee taxes would give coffee producers a stronger incentive to expand production, particularly where swollen-shoot virus infestation has reduced profits from cocoa production.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department—is part of a larger effort in PRE to analyze the economics of perennial crops and thus provide policy guidelines for efficient agricultural development. Please contact Cicely Spooner, room N8-039, extension 30464 (214 pages with figures and tables plus 103 pages of annexes).

430. Rural-Urban Growth Linkages in India

Peter B. Hazell and Steven Haggblade

Improving the nonfarm response to growing demand from agriculture calls for appropriate growth in agricultural technology, adequate investments in rural infrastructure, and the avoidance of policies that discriminate against small, labor-intensive businesses in favor of their larger, capital-intensive cousins.

Using two models — an econometric analysis of cross-sectional data on states and districts and a semi-input-output model fitted to a national input-output table for 1979/80 — Hazell and Haggblade analyze the relationship between agricultural growth and growth in the rural nonfarm economy. They conclude that:

Because of strong links to agricultural growth, rural nonfarm income and employment will both grow faster than their agricultural counterparts. A sustained agricultural growth rate of 2.4 percent (the past trend) will lead to 3.0 percent growth in nonfarm income in rural areas and towns and 2.8 percent growth in nonfarm employment. If agriculture grows 4 percent, these rates increase to 5.8 percent and 4.0 percent, respectively.

Continued growth in agricultural output is unlikely to provide the growth in productive employment required to absorb projected increases in the rural labor force. The employment gap will increase if irrigation plays a decreasing role in agricultural growth. Secondary rounds of growth in the rural nonfarm economy could bridge this gap given moderate agricultural growth.

Export and domestic urban demand must play an important role if manufacturing is to continue to grow 8 percent a year. Despite the strength of the rural-urban linkages, agricultural growth alone cannot provide enough market to sustain rapid growth in India's manufacturing sector. An agricultural growth rate of 2.4 percent a year will generate only 1.8 percent (if irrigated agriculture) to 1.9 percent (if rainfed agriculture) growth in national manufacturing output. Even 6 percent growth in agriculture will generate only about 5.5 percent growth in manufacturing output.

Agricultural growth will lead to expansion in high-value agricultural output, especially livestock and horticultural products. Increased production of these labor-intensive products should especially benefit the poor.

The size of the agricultural income multipliers depends primarily on the level of per capita agricultural income, but public policy can affect their magnitude. They are positively related to the development of such rural infrastructure as roads, electrification, and banking services. They are stronger under irrigated than rainfed agricultural growth and larger for small- to medium-size farms than for larger farms.

Improving the nonfarm response to growing demand from agriculture calls for appropriate growth in agricultural technology, adequate investments in rural infrastructure, well-developed rural towns, and the avoidance of tax, regulatory, or licensing policies that discriminate against small, labor-intensive businesses in favor of their larger, capital-intensive cousins.

This paper, a background paper for the FY1991 Country Economic Memorandum for India, is a product of the Agricultural Policies Division, Agriculture and Rural Development Department and is part of a larger effort in PRE to learn more about the indirect effects of agricultural growth on the rural nonfarm economy, and how the value of the income and employment benefits can be enhanced for the poor. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (79 pages with tables).

431. Recent Developments in Marketing and Pricing Systems for Agricultural Export Commodities in Sub-Saharan Africa

Panos Varangis, Takamasa Akiyama, and Elton Thigpen

Privatization of marketing and the adoption of free-market pricing is easier under the caisse *system than under the monopolistic marketing board system. A progressive export tax system, based on a market-determined price, can ease the transition from a fixed producer pricing system to a free-market pricing system.*

Varangis, Akiyama, and Thigpen document the difficulties various countries in Sub-Saharan Africa have had with marketing and pricing systems, and show how these systems have been caused or exacerbated by government controls. They document the steps several countries have taken toward relaxing those controls and allowing more participation by private enterprise.

They draw some general conclusions about the kinds of changes in parastatal marketing organizations that most effectively improve their ability to market crops efficiently and cope with changes in world prices:

The path a country should take toward more private sector participation depends heavily on the form of marketing and pricing system that exists and the time needed to develop needed skills in the private sector.

Complete or increased privatization of marketing and adoption of free-market pricing is easier under the *caisse* system than the *marketing board* system. Under the caisse system, the private sector already handles domestic and export marketing — so the transition essentially involves increasing competition in an existing private sector (step A).

Under the monopolistic marketing board system, countries should identify activities (such as processing) that can be performed immediately by the private sector and take steps to transfer those steps to the private sector (step B).

In countries with a marketing board system and a weak private sector, export and domestic marketing can initially be shared by the boards and the private sector, with boards acting as "buyers of last resort." Over time the boards should be treated as just another of the marketing agencies competing with the private sector (step C).

After taking steps B and C, marketing boards will be like caisses and in time can take step A.

If an immediate change from a fixed producer pricing system to a free-market pricing system is not feasible or is judged undesirable, a gradual transition can be made by implementing a progressive export tax system that is more progressive in the initial stages.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the impacts of various kinds of primary commodity marketing and pricing systems and how best to change to more efficient systems. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (69 pages with charts and tables).

432. Policy Choices in the Newly Industrializing Countries

Bela Balassa

The Far Eastern newly industrializing countries (Hong Kong, Korea, Singapore, and Taiwan) achieved much larger increases in per capita incomes than their Latin American counterparts (Argentina, Brazil, Chile, and Mexico) in the 1963-88 period. Differences in economic growth rates find their origin in differences in savings ratios and investment efficiency.

While savings rates differed little between the two groups of countries between 1963 and 1973, these ratios increased substantially in the Far Eastern NICs in subsequent years as they employed measures encouraging savings. Similar increases did not occur in Latin America where the policies applied were not favorable to savings.

Investment efficiency was higher in the Far Eastern NICs than in the Latin American NICs throughout the period. The Far Eastern NICs achieved high levels of investment efficiency in the framework of an open economy, with high and rising ratios of exports to the gross domestic product. Export expansion involved an increasing shift toward manufactured goods.

Exports in the Far Eastern newly industrializing countries were promoted by the system of incentives that entailed no discrimination, or little discrimination, against exports. These countries also relied to a considerable extent on export promotion in response to external shocks and did not engage in excessive foreign borrowing.

The experience of the Far Eastern and Latin American newly industrializing countries provides important lessons to other developing countries. It indicates the superiority of outward-oriented policies that provide similar incentives to exports and to import substitution. It also shows that the continuation of outward-oriented policies permits overcoming the effects of external shocks while reliance on external borrowing reinforces the adverse effects of these shocks.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand the economic policies in the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact DECVP, room S9-047, extension 33769 (18 pages with tables).

433. The Pervasive Effects of High Taxation of Capital Goods in India: Findings and Conclusions from a Sample of Projects

Francois Ettori

India's heavy duties on capital goods blur the incentive signals from the tariff structure. In practice, that structure favors import substitution of intermediate products from heavy industry and discourages exports. The complex protection structure should be simplified, with priority to slashing the duties on capital goods.

Some 60 industrial projects (chiefly in the chemical and engineering subsectors) financed by the Development Finance Institutions in India in 1988 and 1989 were analyzed. The major finding is that levying the heaviest duties on imported capital goods has deeply distorted industrial incentives and harmed industrial competitiveness and exports.

With tariffs on capital goods averaging 80 percent (except for electronic industries equipment which pays about 40 percent), Indian projects are generally 40 to 50 percent more expensive than they would be under free trade, and up to 80 percent more expensive in capital- intensive projects.

The high investment costs require a compensatory effective protection averaging 30 percent to allow industrial projects to earn returns at least equal to those available under free trade. However, about half the projects (generally those producing final goods) receive effective protection significantly lower than the compensatory effective protection, and generate lower profits than those of foreign competitors.

Nominal protection varies widely between subsectors — from 25 percent for final goods industries to 60 to 65 percent for industries producing intermediates and inputs for downstream subsectors — and within each subsector.

Nominal protection rates (as reflected by domestic to world price ratios), averaging 40-50 percent, are substantially lower than average tariff collection rates (60-70 percent) and much lower than official tariffs (120-140 percent). The wide variations in protection reflect a complex system comprising many exemptions and ad hoc tariffs.

Tariff reform is urgently needed. Tariffs should primarily provide protection and incentives, with only a secondary function of generating public revenue. First, tariffs should be slashed, and imports liberalized, on capital goods, toward a uniform tariff of 25 percent and full exemption for projects exporting at least half of output. For intermediates and other inputs, most tariff exemptions should be eliminated, import regimes unified, and tariffs aligned on collection rates toward reduced levels averaging 40 percent.

Public revenue should be generated increasingly through trade-neutral instruments (profit taxes and indirect taxes such as MODVAT and consumption VAT).

This paper — a product of the Industry and Finance Operations Division, Asia Regional Office, Country Department IV (India) — is part of a larger effort to undertake a comprehensive review of India's trade regime and policies and to make recommendations for liberalization of trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Francois Ettori, room D10-049, extension 80324 (39 pages with graphs and tables).

434. Tax Sensitivity of Foreign Direct Investment: An Empirical Assessment

Anwar Shah and Joel Slemrod

Developing countries with heavy foreign direct investment need not worry about providing special tax incentives for foreign investment. But they must be sure that their tax system is competitive with the home tax regime of a marginal investor who has access to foreign tax credits against domestic tax liabilities.

The tax sensitivity of foreign direct investment (FDI) has important policy implications for developing countries.

If FDI is not responsive to taxation, it may be an appropriate target for taxation by the host country, which can raise revenue without sacrificing any economic benefits from FDI.

Shah and Slemrod examine this question for Mexico by modeling the tax regimes in Mexico and the home country of a marginal investor, the credit status of U.S. multinationals, country risk factors, and regulatory and trade regimes in Mexico.

They conclude that the FDI in Mexico is sensitive to the Mexican and U.S. tax regimes, to the multinationals' credit status, to country credit ratings, and to the regulatory environment.

So Mexico's current policy of dismantling regulations and having a tax regime competitive with that in the United States is expected to improve FDI in Mexico.

Mexico must aim for tax rates similar to those in the United States to eliminate any tax-induced disincentives for investment and to ward off any possible transfer of revenues from Mexico to the U.S. treasury through U.S. foreign tax credit provisions.

A potential investor might find Mexico's new 2 percent assets tax, because of its partial noncreditability against U.S. tax liabilities, a cause for concern. An alternative minimum tax on an adjusted base that includes tax preferences as part of taxable income could achieve the same purpose but would probably be fully creditable against U.S tax liabilities.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote sound public policies in the development of the private sector in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (41 pages with figures and tables).

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote sound public policies in the development of the private sector in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (41 pages with figures and tables).

435. Rational Expectations and Commodity Price Forecasts

Boum-Jong Choe

Forecasts for the primary commodity market by the Bank's International Commodity Markets Division — with significant but not excessive adaptation to spot-price movements — probably are reasonable, optimal short-term forecasts, superior to "naive" forecasts or futures prices.

Forecasts of primary commodity prices, which the Bank's International Commodity Markets Division has been preparing for more than two decades, are used mainly for project evaluation and balance-of-payments projections for developing countries. There has been some concern about their accuracy. Until very recently, the majority of studies of both survey expectations and futures prices, including previous retrospective studies of the division's price forecasts, found that expectations are formed irrationally and inefficiently. Lately, however, attempts have been made to explain the sources of forecast biases to put the irrationality of expectations in question.

Choe takes a new look at these forecasts in light of recent theoretical and empirical work on the formation of expectations. The forecast data analyzed are one year-ahead forecasts made for 10 commodity prices over the 1979-88 period. His main findings are:

- The division's forecasts tend to show positive forecast errors — overestimating future spot prices.
- Among the expectations models estimated, the adaptive expectations model appears to describe the division's forecast behavior most closely.
- The division's forecasts are stabilizing, whatever the expectations model used. There are no indications of "bandwagon" behavior.

• The division's forecasts are far from static since they put much less weight on current spot prices than other expectations data — they are not as adaptive as others to the latest price changes.

• The rationality of the division's forecasts cannot be rejected.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the short- and long-run behavior of primary commodity prices and the implications of movements in these prices for the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (22 pages with tables).

436. Commodity Price Forecasts and Futures Prices

Boum-Jong Choe

Commodity futures prices have biases due to risk premia and expectational errors, thus limiting their usefulness as a short-term price forecasting tool. Also, futures prices are more adaptive to spot price movements than price expectations, but not necessarily more rational.

Choe investigates the relationship between commodity futures prices and price expectations, to determine the usefulness of futures prices as a short-term price forecasting tool.

Previous studies of forecasts from the Bank's International Commodity Markets Division found evidence that commodity specialists' forecasts are outperformed by "naive" (static) forecasts, which will hold if commodity markets are efficient. On the other hand, futures prices also have shown biases, typically underforecast-ing subsequent spot prices. Some researchers attribute this futures discount bias to time-varying risk premia. Others assume that agents are risk-neutral and that biases reflect market inefficiency and the failure of rational expectations.

The informational value of futures prices for forecasting depends on the size of the risk premium relative to the expectational error. A recent study found that expectational errors dominate the forward discount bias of the foreign exchange rate and that the risk premium is small, relatively stable, and uncorrelated with the expectational error.

Choe investigates whether commodity futures prices exhibit similar characteristics. He also estimates a relationship between futures prices and price expectations. His main findings include:

• The rational expectations hypothesis is more widely rejected with futures prices than with the division's forecasts.

• Risk premia and expectational errors are equally important in explaining the futures forecast bias — so futures prices have to be adjusted for risk premia to be useful for short-term forecasting.

• The variance of risk premia is not larger than that of expected price changes for most commodities.

• The risk premium appears to be correlated with the futures discount for at least half the commodities.

• Futures prices are more heavily influenced by current spot prices than by expected future prices.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the short- and long-run behavior of primary commodity prices and the implications of movements in these prices for the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (23 pages with charts and tables).

437. Institutional Development Work in the Bank: A Review of 84 Bank Projects

Cheryl W. Gray, Lynn S. Khadiagala, and Richard J. Moore

Institutional development work in Bank projects can be improved through careful attention to staffing, organization, work assignments, and managerial commitment.

To assess the quality of institutional development (ID) work in recent Bank projects, and the factors affecting that quality, Gray, Khadiagala, and Moore reviewed the design of 84 projects approved by the Board in 1988. They found the following:

The Bank's record on ID is mixed. ID treatment was judged good in 43 percent of the projects, adequate in 24 percent, and weak in 33 percent. ID treatment tended to be better in investment projects — particularly in infrastructure, energy, and human resources — than in adjustment loans. Among regions, Asia and Africa had a larger percentage of well-designed loans than EMENA and LAC.

Of the people working on ID issues, 44 percent were technical specialists, 27 percent were economists, 18 percent were lawyers, financial analysts, project officers, or country officers, and 11 percent were people with specialized ID training. Consultants played only a minor role except in agricultural projects.

Several staff characteristics appear to affect the quality of ID treatment in the design of Bank projects. First, technical and institutional specialists appear to do a better job than economists on average. This finding supports the view that institutional analysis is a speciality distinct from economics, and that specialized training — whether in a technical specialty or in disciplines such as public administration or social sciences other than economics — can improve one's ability to analyze institutions and design ID interventions. Second, the data strongly suggest that more experienced people tend to do better ID work. While experience and educational background are highly correlated, each appears to make an independent contribution to the quality of ID treatment. Third, country experience adds considerably to the quality of ID work.

These findings lead the authors to make several recommendations. First, specialized public sector management divisions can be useful in improving the Bank's ID work in adjustment and technical assistance loans, but they are no substitute for expertise and sensitivity to ID concerns within the country departments themselves (ideally through the inclusion of at least one ID specialist on the staff of each such department). Second, the Bank should continue to emphasize sector-specific training and experience — particularly line management experience — in hiring staff for the sector divisions. Third, resident missions should play more of a role in project design and supervision than they do now. Fourth, greater emphasis on project supervision is needed. Few incentives now exist for good supervision, and responsibility for project outcomes appears to be weak.

Finally, the Bank's best institutional work is done when managers are most committed to ID goals. Managers can improve the quality of ID work by giving clear signals — through hiring practices, work assignments, policy papers, speeches, and (most important) reviews of individual loans — that ID is crucial to the Bank's mission of promoting development.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to understand and support the process of institutional development in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lois Lockyer, room N6-037, extension 36969 (27 pages with boxes and tables).

438. How Redistribution Hurts Productivity in a SocialistEconomy (Yugoslavia)

Milan Vodopivec

In socialist economies, profitable firms are taxed to subsidize unprofitable ones, and productive workers subsidize unproductive workers. Yugoslav firms, Vodopivec concludes, produce less because of both types of redistribution.

Socialism as practiced in Eastern Europe is characterized by massive income redistribution. Vodopivec focuses on (1) interfirm redistribution, consisting of taxing profitable firms in order to subsidize unprofitable ones, and (2) intrafirm redistribution, consisting of the compression of personal income differentials within a firm.

Vodopivec constructs a theoretical model of redistribution of income as practiced in Yugoslav firms. Empirical results lead him to conclude that efficiency in production could be improved at no cost if such redistribution were abolished. Furthermore, economies in which much of GNP is redistributed through bargaining are bound to be inefficient also in distribution — because some groups are less able to represent their common interests than others. Contrary to a common belief, socialist countries can not be praised on the count of equity either.

Increasing wage differentials may not be too controversial or difficult a task in Yugoslavia. More difficult will be the issue of interfirm transfers, and to prevent them the government should:

- Stop subsidizing enterprises (from either government or enterprise sources).
- Make the fiscal system unselective and transparent (apply uniform tax rates, unburden enterprises of parafiscal "financial investments," and reduce the system's technical complexity by reducing the variety of taxes enterprises pay).
- Impose positive interest rates (in real terms) on any kind of loan — for example, by indexing debts.

Vodopivec claims that socialist countries lack adequate mechanisms to prevent such redistribution — that ill-defined property rights, together with a monoparty political system, generate such redistribution. Changing that means introducing new mechanisms to:

- Provide alternative services on the basis of *impersonal* (market) decisionmaking, thus supplanting bargaining between interest groups, where feasible.
- Where impersonal decisionmaking is not feasible (as in fiscal and monetary policy), supplement current institutions by providing checks and balances in political decisionmaking.

The peaceful revolutions in Eastern Europe have removed political obstacles to introducing such changes, but implementing them may be a long, painful process.

Interfirm and intrafirm redistribution should be abolished and a social safety net established — one that does not hamper efficiency (as in Sweden). Dethroning all old institutions in socialist countries in a "great leap," however, might be like throwing out the baby with the bath water. Many institutions deserve abandonment, but in a radically changed environment, worker participation in profit-sharing and decisionmaking may increase productivity, as it does in developed market economies.

This paper — a product of the Socialist Economies Division, Country Economics Department — is part of a larger effort in PRE to investigate the behavior of firms in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Julia Lutz, room N6-037, extension 36970 (39 pages).

439. Indicative Planning in Developing Countries

Bela Balassa

The lack of success of planning, together with the growing understanding of the importance of incentives and markets, have contributed to the decline of planning in the 1980s. The question remains, then, what should the role of the public sector in developing countries be?

Indicative planning involves the establishment of sectoral targets which are not compulsory for the private sector and are imbedded in macroeconomic projections that pertain to a period of several years. Indicative planning has been widely practiced in developing countries during the postwar period. At the same time, the review of the experience of these countries indicates that it failed to have favorable economic effects while utilizing scarce administrative resources.

The lack of success of planning, together with the growing understanding of the importance of incentives and markets, have contributed to the decline of planning in the 1980s. The question remains, then, what should the role of the public sector in developing countries be? This question may be addressed by considering the choice between public and private enterprises in the manufacturing sector, the size of the government, the implications of public investments, and the evaluation of public sector projects.

Available evidence indicates the superiority of private enterprises over public enterprises. It further appears that increases in the size of the government adversely affect growth performance in developing countries. Finally, increases in the share of public investment tend to be associated with a decline in the share of total investment in GNP and with a fall in investment efficency.

Nevertheless, there is evidence that infrastructural investments favorably affect private investment. At the same time, such investments should be subject to rigorous project evaluation so that appropriate choices may be made among alternative investments. They should also be based on multiannual programs. Thus, the usefulness of planning reemerges in the confines of public sector investment in infrastructure.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to study development policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact DECVP, room S9-047, extension 33769 (23 pages).

440. Financial Sector Policy in Thailand: A Macroeconomic Perspective

William Easterly and Patrick Honohan

How well Thailand's financial sector can provide the investible funds demanded by the country's current boom depends partly on its ability to mobilize savings — through official policy on credit allocation and through the movement of capital internationally.

Thailand's recent boom has been accomplished in an economy open to external forces. Despite the fiscal correction achieved in 1986-89, expansion of domestic demand made itself felt in a widening of the current account deficit. This deficit partly reflects the need for a surge of capital spending to develop export prospects and to provide the necessary infrastructure — but care must be taken that investment not get too far out of line with the economy's long-term savings potential.

How well the country's financial sector can provide the investment funds the boom demands depends partly on its ability to mobilize savings, on official policy about credit allocation, and on the degree to which capital is free to flow internationally.

Resource mobilization in Thailand is impressive: its liquidity ratio is surpassed in only a handful of developing countries.

There are some selective credit measures — mainly favoring agriculture, agribusiness, and commodity exports — but these are either relatively small in scope or tend to be only partly enforced, so they distort the allocation of credit only slightly. A number of quasi-fiscal requirements add about 1.5 percentage points to gross banking spreads.

The interest-rate ceilings on bank loans have probably lowered the cost for some nonprime borrowers but may have increased rates for others and excluded some high-risk borrowers.

Capital movements are restricted, and there is evidence that domestic monetary conditions have a short-run effect on wholesale interest rates. But wholesale interest rates tend to converge to foreign levels in the medium term, suggesting that monetary policy has only a short-term effect.

Easterly and Honohan make recommendations for developing monetary policy instruments and for recasting and reducing quasi-fiscal and credit allocation impositions on the financial system.

This paper — a product of the Macroeconomic Adjustment and Growth and Financial Policy Divisions, Country Economics Department — is part of a larger effort in PRE to analyze links between macroeconomic policy and financial sector performance. This work is related to a research project on the macroeconomic consequences of public sector deficits. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (68 pages with figures and tables).

441. Inefficient Private Renegotiation of Sovereign Debt

Kenneth M. Kletzer

Private renegotiation of debt repayments and new loans is inefficient because of the creditors'seniority privileges and lack of commitment and the inadequate information creditors have about debtors' policy choices.

The negotiation of sovereign debt repayments and of new loans after default may yield inefficient outcomes that justify intervention by creditor country governments and international financial institutions. Kletzer analyzes possible distortions arising in renegotiations between private creditors and sovereign borrowers. He argues that legal privileges accorded to existing creditors in their home jurisdictions can distort the flow of resources for capital formation abroad. Seniority privileges for old lenders convey to them some of the social returns from new lending, reducing the potential rewards for those who might provide the new funds.

A simple dynamic model is presented in which the motivation for borrowing from abroad is to smooth consumption over time when national income is subject to random fluctuations. The borrower cannot commit to make future repayments to creditors due to sovereign immunity. Payments are made by the borrower to avoid credible suspensions of access to consumption-smoothing opportunities. These are imposed in the future, in contrast to a repeated static model in which sanctions are traded for payments contemporaneously.

Time inconsistency arises because lenders cannot commit to accept future net resource transfers which, in some contingencies, they will wish to renegotiate. Therefore, renegotiation of simple debt contracts *ex post* need not lead to the equilibrium path achieved using state-contingent contracts when commitment is possible. New capital inflows to heavily-indebted countries will not be forthcoming when further lending is socially efficient. The bargaining conduct in renegotiations of a long-term relationship between lenders and a borrower depends on the commitment opportunities of lenders and their legal privileges vis-a-vis other lenders. Cooperative equilibria can be unattainable for the coalition of lenders due to institutional distortions. The importance of legal institutions within and across creditor countries for efficiency of renegotiations is discussed at length.

Informational asymmetries are an additional source of distortions in the resource allocation sustained through bargaining over repayments and new loans. Because a borrower may be able to conceal that she would be willing to repay as contracted, she may be able to renegotiate debt-service obligations to her advantage. In an equilibrium with imperfect information about debtor characteristics, the loan and renegotiation offers made by lenders anticipate this possibility leading to less initial lending and a faster build-up of a debt overhang.

The paper also presents a model of strategic bargaining with asymmetric information about the debtor government's social preferences to capture the constraints that the domestic political environment imposes on debt-servicing. Creditors may delay agreement to elicit private information, and the consequent suspension of inflows leads to a socially inefficient capital accumulation path in this dynamic model.

The analysis stresses the distinction between explicit contracts with state-contingent repayment schedules and long-term relationships created by simple contracts that exchange resources for an ability to impose sanctions whose value is negotiated ex post. Because institutions created by creditor country governments convey legal privileges that distort the allocation of resources in the bargaining process, the paper urges investigation of official alienation of these privileges, regulatory reform, and introduction of alternative financial instruments that embody opportunities for creditor commitment.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to determine the conditions under which debtor countries benefit from debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (57pages).

442. Indian Women, Health, and Productivity

Meera Chatterjee

Documentation of the interaction of Indian women's poor health status and low productivity and evidence that raising the economic value of women is ultimately the most effective way of improving their health.

To overcome constraints on Indian women's access to health care requires social interventions (freeing women to seek health care), economic interventions (improving the opportunity costs of their doing so), and service interventions (making relevant health care services more easily and widely available).

Over the long term, the most effective means of improving women's health and reducing fertility levels are those that will raise the perceived economic value of women.

Among the other issues discussed in this major report are the following:

Women get less to eat than men, which limits their physical development, reproductive success, and productivity. The cycle of malnutrition produces low birth weight and low infant and maternal survival — which encourages another round of high fertility and attendant stress on the women and on society's resources.

Efforts to improve women's participation in the labor force should be linked to efforts to provide support facilities for child care and maternal and child health.

The critical target group for fertility planning is rural adolescent girls, who must be given educational and vocational opportunities and prepared for marriage and motherhood. Half of all rural girls aged 15 to 19, and 44 percent of *all* girls in this age group, are married. Providing more and better education and employment for girls and women is an important strategy for delaying the marriage age and reducing fertility and infant mortality.

In the short term, the most effective means of improving women's health is to increase the number and improve the training and deployment of village-based health care workers (mainly women) and their ability to deliver health care services to women in their homes.

One way to strengthen the function and local connections of these women might be to organize their services and training around a single major health intervention: distributing iron-folate tablets to control anemia, which affects more than 60 percent of Indian women. Anemia increases women's susceptibility to illness, complications in pregnancy, maternal deaths, and survival, generally. Thus it lowers their productivity.

Improving health, nutrition, and family planning services — all three together — will improve the balance between the energies women expend in production and reproduction and their rewards.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to understand the linkages between improving women's access to education, extension training, credit, health care and other public resources, and increasing women's productivity and thus family welfare. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rose Vo, room S9-125, extension 35108 (130 pages, with figures and tables).

443. The Inflation-Stabilization Cycles in Argentina and Brazil

Miguel A. Kiguel and Nissan Liviatan

The repeated use of price and wage controls is likely to destabilize inflation in the medium run. The similar cyclical pattern of inflation observed in the aftermath of the failures of the Austral plan in Argentina and the Cruzado plan in Brazil is mostly linked to anticipations about the introduction of price controls. The heterodox approach is risky if not accompanied by an adequate adjustment in the budget deficit.

The Austral plan in Argentina and the Cruzado plan in Brazil were the first stabilization programs in recent years that succeeded (albeit temporarily) in drastically reducing inflation in the short run. They also had a lasting effect in the sense of changing the pattern of inflation in both countries.

Before these programs, inflation was higher, more unstable, and more clearly fiscal in Argentina than in Brazil. These differences all but disappeared after the Austral and Cruzado programs, as both countries underwent similar inflation-stabilization cycles.

There is a pattern to those cycles. Inflation falls dramatically in response to a stabilization program based on wage-price controls and remains low for months. Then inflation accelerates as controls are removed and eventually becomes explosive, often reaching hyperinflationary levels. A new round of controls sets the stage for the new cycle.

Kiguel and Liviatan address the question of why neither country succeeded in sustaining a high but *stable* rate of inflation.

In their view, the type of instability that emerged after the failure of the heterodox shocks came about because the countries relied heavily on income policies to stop inflation. The repeated use of these controls, together with firms' and workers' pessimism about future government actions, caused the instability.

One of the main problems in these countries is to establish a minimum degree of credibility in the government's disinflationary policies and in the sustainability of the fiscal adjustment, something no stabilization program has done in Argentina in the last 30 years.

Presumably this will require implementing basic fiscal reform aimed at convincing the public that adjustment is sustainable. Relying on high public sector prices and a fall in real wages during the freeze is not enough because these measures are not immune to inflationary shocks.

It is also necessary to restore credibility in the governments' commitment to stand behind the nominal anchors, whatever the cost. This is a different kind of credibility issue. The governments must be willing now to maintain the announced exchange rate or monetary target even if pessimistic expectations result in overvalued currency or high real interest rates.

Given their cyclical recent histories, there is no way to avoid the confrontation between pessimistic expectations and the effort to set nominal anchors. This confrontation will result in a monetary crunch or in overvaluation of the currency, depending on whether the monetary supply or the exchange rate is used as an anchor.

In either case, growth will suffer in the short or medium run.

Argentina and Brazil should shift toward orthodox stabilization programs and avoid price controls (particularly a wage-price freeze in the private sector) to restore credibility to conventional anchors.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to examine stabilization policies. It was funded by the research project "Stopping High Inflation" (RPO 674-24). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (35 pages with figures and tables).

444. The Political Economy of Inflation and Stabilization in Middle-Income Countries

Stephan Haggard and Robert Kaufman

Macroeconomic stability is most precarious, and stabilization most likely to be delayed, where the party system is fragmented or polarized.

Drawing on case studies of 58 episodes of inflation and stabilization in 17 middle-income Latin American and Asian countries, Haggard and Kaufman analyzed the political economy of inflation and stabilization. They concluded that political factors that affect macroeconomic stability and stabilization efforts include populist movements, elections, and pressures from interest groups.

Macroeconomic stability is most precarious, they found, where the party system is fragmented or polarized, reinforcing social and economic cleavage among contending groups and exacerbating political instability. Stabilization is invariably delayed in such a setting.

Where rates of inflation are low or moderate, democratic and authoritarian governments seem equally capable of implementing stabilization policies. In this sample, virtually all high inflation was brought down only under the auspices of authoritarian regimes — underscoring the challenges facing the newly democratizing Latin American and Central European governments.

These cases suggest, however, that institutional arrangements that insulate economic decisionmaking from partisan conflict can contribute to successful stabilization under democratic auspices.

This paper— a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the political economy of stabilization and structural adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Aludia Oropesa, room N11-019, extension 39176 (64 pages with tables).

445. Pricing, Cost Recovery, and Production Efficiency in Transport: A Critique

Rachel E. Kranton

Public sector pricing policies may undermine incentives to reduce costs. Therefore measures to promote cost reduction should be part of any pricing policy reform designed to increase cost recovery.

Drawing on developments in industrial organization and analyzing the U.S. experience in reforming Conrail, Kranton emphasizes that policies to reform public enterprises should first promote cost reduction. Pricing policies aimed at cost recovery should be undertaken only in conjunction with general enterprise reform, to ensure that the pricing scheme does not undermine the enterprise's financial and operational discipline.

Kranton discusses five sources of inefficiency in public transport:

- The goals of the enterprise or the regulation of its operations.
- The structure of the output market.
- The control mechanism between government and the enterprise.
- The managerial incentive structure.
- The conditions of employment.

Even when public enterprises are bent on maximizing consumer welfare, costs are not necessarily minimized. Control mechanisms that allow for asymmetric information between layers of management and provide performance incentives encourage efficiency. Regulation may cause inefficiency by distorting incentives and creating protected markets. And enterprises that operate in uncompetitive markets may face little pressure to operate efficiently.

Lack of competition may also exacerbate the problem of asymmetric information between owners and managers. Owners of public firms — citizens and taxpayers — are unlikely to exert pressure on public enterprises to operate efficiently. And public firms may be protected from insolvency by "soft" budget constraints.

Kranton points out the need for an integrated theory of public production (to help formulate policies to minimize costs) and more empirical work to explain the differences in costs between public and private enterprises.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to improve policies on pricing, cost recovery, and efficient resource use in transport. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Wendy Wright, room S10-055, extension 33744 (45 pages).

446. MEXAGMKTS: A Model of Crop and Livestock Markets in Mexico

Gerald T. O'Mara and Merlinda Ingco

The MEXAGMKTS model allows an exploration of the effects on individual commodity markets of Mexico's domestic macroeconomic policies or of the macroeconomic and sectoral policies of Mexico's trading partners.

The genesis of the model MEXAGMKTS was the perception that agricultural policies in Mexico (and many other countries) are often second-best responses to the negative side effects of broad macroeconomic and international trade policies.

MEXAGMKTS was designed to allow analysis of the relationship between such agricultural policies and different macroeconomic and international trade regimes. MEXAGMKTS is part of a set of interlinked macroeconomic and sectoral models of Mexico and the United States (with enough specifications for the rest of the world to close the system).

O'Mara and Ingco discuss the historical context in which MEXAGMKTS was developed as well as its economic structure, estimates, and validation. They present a stand-alone, counterfactual application of a trade liberalization scenario for Mexico.

The conclusion: If human consumption is the welfare criterion, trade liberalization improves the average consumption possibilities for the Mexican people. Lower prices for maize and soybeans shift consumption possibilities outward, with an increased price for sorghum offset by efficient input substitution in livestock production.

The cost of this improvement is significantly less domestic production of maize and more variation in producer prices for maize and sorghum. As a result, maize imports may reach very high levels on occasion. For a government that prefers to produce most of a major food grain domestically, this may be a high price to pay. But in the long term, the food security cost of maize imports appear to be much lower.

This paper — a product of the Agricultural Policies Division, Agricultural and Rural Development Department—is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (61 pages with graphs and tables).

447. Analyzing the Effects of U.S. Agricultural Policy on Mexican Agricultural Markets Using the MEXAGMKTS Model

Gerald T. O'Mara

This model simulation suggests that prices and trade in Mexican agricultural production are sensitive to policy changes in U.S. agriculture under a scenario of trade liberalization for Mexico.

O'Mara uses results from simulations of the FAIRMODEL, USAGMKTS, and MEXAGMKTS models to analyze the effects of changes in U.S. agricultural policy on Mexican agricultural markets.

He concludes that under a scenario of trade liberalization for Mexico, Mexican agricultural production, prices, and trade are quite sensitive to agricultural policy changes in the United States.

Plausible changes in U.S. agricultural variables (of 10 percent, say) indicate possible changes of 10 to 15 percent in the border prices Mexico faces.

The extent of such changes depends on the state of the agricultural sectors and macroeconomies in the United States and the rest of the world. And the magnitude and direction of the Mexican response depends on the state of Mexico's macroeconomy and agricultural sector.

The ability to discern the effects of a given policy change in the United States, although difficult, would be of significant value to Mexican policymakers under trade liberalization.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (23 pages with tables).

448. A Model of U.S. Corn, Sorghum, and Soybean Markets and the Role of Government Programs (USAGMKTS)

Richard E. Just

This estimated model of corn, sorghum, and soybeans markets (USAGMKTS) serves as the U.S. agricultural sector in a study of the effects of U.S. agriculture and macroeconomic policy on Mexico's agricultural sector.

This model of U.S. corn, sorghum, and soybeans markets also includes U.S. markets for beef, hogs, and poultry—because of their importance and endogeneity with respect to U.S. feed grain policies, which are major determinants of corn and sorghum prices.

The model is part of a set of interlinked sectoral and macroeconomic models that link Mexico and the United States (with enough specification for the rest of the world to close the system).

Just reports the results of the simulations of various alternative U.S. agricultural policy scenarios, to estimate the effects of various feed grain policy instruments.

Plausible U.S. agricultural policy adjustments can alter border prices facing world trading partners by 10 to 15 percent. The extent of these adjustments depends heavily on the current state of the U.S. agricultural economy—and they are transmitted to other grain and livestock markets in varying degrees.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department—is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (42 pages with tables).

449. Analyzing the Effects of U.S. Macroeconomic Policy on U.S. Agriculture Using the USAGMKTS Model

Richard Just

Countries that trade in agricultural commodities with the United States need to sort out the effect of U.S. macroeconomic policy on U.S. agriculture. This report describes the results of simulating the effects of U.S. macro policy on U.S. agriculture.

The USAGMKTS model was developed to determine the effects of potential changes in U.S. policy on the border prices of corn, sorghum, and soybeans.

It is part of a set of interlinked macroeconomic and sectoral models that link Mexico and the United States (with enough specification for the rest of the world to close the system).

The macroeconomic effects of monetary and fiscal policy are estimated using the FAIRMODEL model of the U.S. macroeco- nomy.

The results show that the effects of U.S. macroeconomic policies on pricing and exports can be substantial. Recent and pending macroeconomic policy adjustments can change prices 15 percent or more. Moreover, the response depends heavily on current economic circumstances.

This model helps countries that trade with the United States to sort out the effect of current economic circumstance on U.S. policies.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department—is part of a larger effort in PRE to understand the dependence of domestic agricultural markets on domestic macroeconomic policy and the macroeconomic and trade policies of major trading partners. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (34 pages with tables).

450. Portfolio Effects of Debt-Equity Swaps and Debt Exchanges with Some Applications to Latin America

Daniel Oks

This model explains why debt-equity swaps tend to raise the steady-state price of sovereign debt in Chile and Brazil and reduce it in Argentina and Mexico.

Oks proposes a portfolio equilibrium model for assessing the short-term and long-term macroeconomic effects of debt buybacks and debt equity-swaps.

He examines the main results in the light of recent Latin American experience with voluntary debt reduction. He shows that in the short-term, debt-equity swaps are inflationary and raise real equity and sovereign debt prices — and that foreign debt buybacks at a discount raise real equity and sovereign debt prices.

The steady-state impact of debt-equity swaps on sovereign debt prices hinges on the values of the following parameters: the foreign resource transfer a country can make, the ratio of domestic equity held by foreigners to a country's foreign debt, the terms of the debt-equity exchange, the rate of profit or equity, the rate of profit remittances, and the technology (decreasing, constant, or increasing returns to scale).

Estimates of these parameters indicate that debt-equity swaps raise the steady-state price of sovereign debt in Chile and Brazil and reduce it in Mexico.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to assess the macroeconomic effects of voluntary debt reduction. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila King-Watson, room S8-025, extension 31047 (37 pages with tables).

451. Productivity, Imperfect Competition, and Trade Liberalization in Côte d'Ivoire

Ann E. Harrison

If structural changes affect the nature of competition in an economy, both changes and levels of change in productivity may be mismeasured.

Research on productivity often focuses on the relationship between productivity increases and such structural changes in an economy as trade reform.

If those structural changes affect the nature of competition or affect scale, however, both the changes and the level of change in productivity may be mismeasured.

Harrison extended previous studies to measure the relationship between productivity, market power, and trade reforms. Using a panel of 287 firms in Côte d'Ivoire, she analyzed changes in firm behavior and productivity, measuring market power before and after the 1985 trade reform.

Harrison found evidence that market power fell in several sectors following the changes in trade policy. She also shows that ignoring the effects of liberalization has led researchers to mismeasure the effect of trade reform on productivity.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to analyze the relationship between trade policy and industrial efficiency. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-025, extension 38009 (41 pages with tables).

452. Modeling Investment Behavior in Developing Countries: An Application to Egypt

Nemat Shafik

This model of investment behavior takes into account certain characteristics common to developing countries, such as the oligopolistic structure of markets, putty-clay technology, the inelastic supply of nontraded capital goods, and financial repression.

Investment functions are notoriously difficult to estimate, particularly in developing countries. Shafik presents a model of the determinants of private investment that takes into account common characteristics of a developing economy.

Firms' decisions about investment are

outcomes of the oligopolistic structure of markets, putty-clay technology, the inelastic supply of nontraded capital goods, and financial repression. These factors result in an important role for markups, internal financing, demand, and the cost of investment goods — defined, not as the interest rate, but as the price outcome from the interaction of supply and demand in the market for capital goods.

By constructing an index of the relative price of investment goods, it is possible to provide a more meaningful indicator of the true cost of capital to the firm under a repressed financial system. In an economy with a well-functioning credit market, the Keynesian equilibrium condition equating the marginal efficiency of investment with the interest is likely to hold. But under financial repression or where credit markets are imperfect, the interest rate is not a true reflection of the cost of capital to the firm. Instead, a combination of the price of investment goods and the quantity of capital available to the private sector appears to be a more realistic proxy.

Shafik tests the model econometrically for Egypt, using the recent literature on cointegration and error correction to avoid spurious regressions and to estimate the long-run equilibrium relationship between investment and its determinants.

She discusses the limit of testing econometrically whether the government "crowds in" or "crowds out" private investment and the impossibility of constructing the counterfactual. It is not possible to conclude whether crowding out or in occurred at the macroeconomic level (to accept the alternative hypothesis) but it is possible to draw conclusions about what did not happen (the null hypothesis).

The model also provides a framework for analyzing the effects of government policy by considering explicitly the role of a number of possible instruments such as the exchange rate, the quantity of credit available to the private sector, and the composition and financing of the government budget. Future research may choose to test other empirical proxies, such as protection, within the same framework.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to understand the determinants of private investment in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Joseph Israel, room S7-218, extension 31285 (66 pages with figures and tables).

453. Do Steel Prices Move Together? A Cointegration Test

Ying Qian

Lack of international comparability in crude steel prices presents a problem in constructing an econometric model of the global steel market.

The commonly used measures of crude steel prices are the weighted average of the prices of steel products and the index of the weighted average of prices based on a certain year.

But in the context of constructing an econometric model of the global steel market — a model that treats steel in crude steel equivalent terms — these measures are not comparable internationally.

If the various product prices are cointegrated, it is appropriate to use the price of the most widely produced and traded product in the model (uncoated steel sheet) as an indicator of the general movement of crude steel prices.

This would solve the problem of international comparisons.

Qian tested the cointegration of steel product prices, using import unit values for France and West Germany and survey market prices for the United States.

He concludes that the hypothesis that the price of uncoated steel sheet cointegrates with the prices of other steel products holds in most cases in France and Germany. The same is not true of the United States, which may point to quality problems with the price data.

Use of the price data of uncoated steel sheet as the indicator of crude steel prices in the global steel model would thus seem appropriate for capturing long-term price movements of various steel products.

Using cointegration tests, the paper also investigates the relationship between macroeconomic variables and steel product prices.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to investigate the decline since the mid-1970s in the use of metals in the industrial countries. Whether or not this change in industrial countries' demand for metals is permanent is of great importance for the developing country producers of the raw materials. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (33 pages with figures and tables).

454. Asset and Liability Management in the Developing Countries: Modern Financial Techniques — A Primer

Toshiya Masuoka

The increased volatility of exchange rates, interest rates, and primary commodity prices over the last two decades has highlighted the importance for developing countries of managing these risks.

The increased volatility of exchange rates, interest rates, and primary commodity prices over the last two decades has highlighted the importance for developing countries of managing these risks. Asset and liability management — a risk-management technique to systematically control price risks with market-based financial instruments — has been developed and broadly used in the industrial countries. But its applications to developing countries have been limited.

Asset and liability management is designed to quantify risk exposure explicitly in the planning process, and to carry out hedging activities with financial market transactions. It could provide an opportunity to reduce the effects of external shocks and complement a country's long-term development planning.

Drawing on the recent studies on theory and practice, Masuoka provides a primer for persons interested in a country's risk-management. Emphasizing practical aspects, the primer presents five major issues:

- The concept of asset and liability management at the country level and the methods of risk exposure measurement.
- Basic characteristics and mechanisms of modern financial instruments — including forward, futures, option, and swap contracts and examples of simple

risk-hedging activities with these instruments. Commodity risk management instruments, such as commodity swaps, commodity-linked loans, and commodity bonds are also explained.

• Actual applications of modern financial techniques by some developing cpuntries.

• Factors impeding developing countries' use of modern financial tools and some ways to remove these factors.

• The World Bank's technical assistance programs for helping developing countries improve their risk management.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to explore the possibility of developing countries using financial market transactions to hedge their exposure to external shocks. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sook Bertelsmeier, room S9-039, extension 33767 (56 pages with boxes, figures, and tables plus 6 pages of appendix).

455. A Formal Estimation of the Effect of the MFA on Clothing Exports from LDCs

Junichi Goto

Exporting developing countries are losing a lot under the MFA's restrictions on trade in clothing: the trade-suppressing effects on restricted suppliers are big; the spillover effects on unrestricted LDCs are small.

This paper establishes a simple general equilibrium trade model to estimate the effects of the Multifibre Arrangement (MFA) on world trade in clothing, especially on exports from developing countries.

The MFA, in effect for more than a quarter of century, has strongly influenced world trade in textiles and clothing. Although intensive negotiations on the abolition of the MFA are under way in the Uruguay Round, there is little hope for its imminent demise.

The MFA greatly affects developing countries because the MFA restrictions are imposed discriminatively on the exports from developing countries. Until very recently, however, the emphasis of empirical studies of the MFA was on importing developed countries rather than exporting developing countries.

One of the main features of the estimation in this paper is its recognition of the underuse of MFA quotas. Contrary to popular belief, the MFA quotas are sometimes not binding because the use of the quotas is very low.

Although the structure of the model is simple (two markets and six groups of suppliers), it is useful for analyzing various effects of the MFA, including:

• The trade-suppressing effect (how much the clothing exports from restricted LDCs are suppressed due to the MFA).

• The trade-diversion effect among markets (how much the clothing imports are increased when one of the markets, either the United States or the European Community, unilaterally lifts the MFA restrictions).

• The spillover effect (how much unrestricted LDCs benefit from the restrictions on other LDCs).

Domestic producers in the developed countries, especially those in the United States, have benefited greatly from the MFA restrictions. The value of shipments of clothing by U.S. producers is more than $3 billion higher ($400 million for EC producers) than they would have been otherwise. When MFA quotas and tariffs are taken together, the value of clothing shipments by U.S. producers is $8 billion higher ($1.5 billion for the EC producers) than without such restrictions.

The spillover to unrestricted developing countries (such as most Latin American countries) is much smaller than often alleged. The spillover effect to unrestricted LDCs is less than $200 million (or a mere 2 percent of the value of shipments by the unrestricted LDCs).

But the trade-suppressing effect on the restricted LDCs (such as Hong Kong and South Korea) is much larger than that of spillover. Due to the MFA, the value of the clothing exports from restricted LDCs is suppressed by more than $1 billion, even in the short run. In the long run, after various adjustments, the lost shipments of LDCs restricted by the MFA amount to more than $2 billion.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to assist developed and developing countries evaluate the effects of tariffs and nontariff barriers on international trade. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Teresa Sanchez, room S8-040, extension 33731 (32 pages with figures and tables).

456. Improving the Supply and Use of Essential Drugs in Sub-Saharan Africa

S. D. Foster

The supply and use of essential drugs in Sub-Saharan Africa is at best inadequate because of inappropriate practices in the selection, procurement, storage, distribution, and prescription of drugs. This paper recommends solutions based on drug policies implemented successfully in several African countries.

Few people in Sub-Saharan Africa have access to essential drugs. And where drugs are available, they are inequitably distributed and improperly used. The main problems — and possible solutions — are:

Drugs are distributed through the private sector, nonprofit organizations, and governments. The private sector consists of a large proportion of unqualified illicit peddlers of drugs who dispense adulterated or expired drugs without prescription. Pharmacies run by qualified pharmacists are a small minority. Nonprofit organizations — usually humanitarian, secular, or religious — and public agencies run by governments also distribute drugs.

African countries do not have the capacity to produce the drugs they need. Pharmaceutical industries in Africa depend on imported raw materials that are expensive when bought in small quantities. It is generally cheaper to import generic drugs than to produce them locally. The paper discusses procurement strategies that have resulted in savings in several countries.

Drugs are wasted due to poor storage conditions, inadequate security, and deficient inventory control systems. Proper selection, quantification, storage, and inventory management of drugs could alleviate this problem.

Drugs are also wasted because of inappropriate and over-prescription, and noncompliance by patients. Efforts to involve prescribers in using standard treatment schedules and to inform patients about the proper use of drugs could result in improved efficiency.

Africa has special characteristics in its land-use patterns, population density, and road infrastructure that affect the distribution of drugs. Counterfeit drugs and difficulties in financing essential drugs are also serious problems. The advent of AIDS has presented new challenges in the provision of essential drugs.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study in PRE of African health policy. A policy paper is being written based on the study. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (38 pages with tables).

457. Financing Health Services in Africa: An Assessment of Alternative Approaches

Germano Mwabu

African economies are performing poorly, and it is unlikely that governments will finance the health sector by raising additional tax revenues or by borrowing from international sources. What are the possibilities for user fees, community financing, and health insurance as alternatives? And should cost-recovery be an objective?

Only economic growth can significantly increase the finances available for health services in Africa.

User fees. User fees can be assessed for primary care (Bamako initiative). This may have the advantage of achieving sustainability in primary care, but discourage the poor from using health services. It is not known what the poor have to give up to have access to health services for which they must pay. For tertiary care, user fees can prevent the overuse of services.

User fees, where they exist, cover only a small fraction of expenditures for health services. Cost recovery through user fees cannot be an objective as the cost of providing health services far exceeds patients' ability to pay. The purpose of user fees must be to facilitate distribution of health services.

Community financing. Another possibility is to raise the funds for health services through collective action by the community. There needs to be a clearly perceived collective need and a community organization. However, the contributions collected are often in kind and not easily convertible into cash.

Revolving fund programs for nutrition and sanitation merit consideration.

Health insurance. Health insurance has limited use in Africa. There are few examples of health insurance plans, and they are generally provided by employers in urban areas. Insurance programs are expensive to run, provide incentives for members to overuse services, and may have the effect of lowering the quality of care.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger study in PRE of African health policy. A policy paper is being written based on the study. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (22 pages).

458. Does Japanese Direct Foreign Investment Promote Japanese Imports from Developing Countries?

Kenji Takeuchi

One way for developing countries to penetrate the Japanese market could be to rely on expansion of Japan's intrafirm imports — particularly for machinery production — from Japanese manufacturing affiliates in these countries.

Japanese direct foreign investment (DFI) in developing countries has been export-market-oriented. Exports were the dominant sales destinations for the affiliates in the primary industries.

In manufacturing, although local markets were the dominant sales destinations of the Japanese affiliates, the share of exports increased from 26 percent in 1972 to 42 percent in 1986. The only subsectors in which export's share remained below 30 percent in 1986 were iron/steel, transport machinery, and chemicals.

The share of Japanese affiliates in Japan's imports of manufactures from Asia (where Japanese manufacturing DFI was most active) is found to have been particularly high in the electrical machinery industry (50-100 percent), very significant for transport machinery (rising from 30 percent in 1980 to 77 percent in 1986), precision machinery (rising from 30 percent to 60 percent), and general machinery (rising from 20-24 percent to 65-75 percent).

For manufacturing as a whole, the share increased from 15 percent in 1980-83 to more than 20 percent in 1986.

Thus for many types of machinery production, Japanese affiliates in Asia seem to have become established as a base for exporting to the Japanese market through intrafirm trade.

In some other manufacturing subsectors, Japanese affiliates have directed their sales efforts to other overseas destinations, gradually reducing the share going to the local market.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to analyze the prospects for developing country exports, particularly manufactured exports, in major industrial country markets. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jean Jacobson, room S8-037, extension 33710 (41 pages with tables).

459. Policies for Economic Development

Stanley Fischer and Vinod Thomas

The economic policies developing countries should follow to sustain economic growth and development.

Fischer and Thomas's explanation of the policy and institutional reforms needed to sustain economic growth and development is organized around several main points:

- The appropriate macroeconomic framework will ensure stability. Fischer and Thomas discuss the essentials of fiscal, monetary, and exchange-rate policy as well as investment and savings ratios and strategies.
- Sectoral pricing and development and regulatory environments must address key constraints on growth, while

respecting the need for stability. The authors discuss economywide issues as well as issues related to agricultural, industrial, and human resource development, poverty alleviation, and sustainable development (observing environmental considerations).

• The domestic economy must be integrated with the global economy to increase competition and improve competitiveness. Fischer and Thomas discuss reforms of commercial and trade policy and the capital account.

• The government must create the proper enabling environment — an appropriate legal, regulatory, institutional, and policy framework. Fischer and Thomas discuss areas in which the quality and competence of governments need improving as well as the nature and appropriate extent of the government's role in providing social services, managing economic policy, and fostering development of the private sector.

The authors conclude with an analysis of the Bank's changing emphasis on types of lending, and with a discussion of major remaining uncertainties, including the role of external funding and international development agencies.

This paper, a background paper for the 1991 World Development Report, is a product of the Office of the Vice President, Development Economics. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (38 pages with tables).

460. Does Food Aid Depress Food Production? The Disincentive Dilemma in the African Context

Victor Lavy

Food aid has a significant positive effect on food production. Any disincentive induced by the additional supply of food is offset by the positive effects —particularly when the basket of food aid is very different from the locally produced basket, as is often true in Sub-Saharan Africa.

Food aid averages only 10 percent of total financial aid to developing countries, but in certain African countries — Botswana, Cape Verde, Mauritius, and Mauritania — it represents more than half the food available for consumption.

What is the relationship of food aid to food production and to commercial imports? Three main hypotheses have been advanced:

• Food aid is an addition to local food supplies that ultimately lowers prices and acts as a disincentive to local producers. The immediate effects may be small, but a lagged response can be generated.

• Food aid displaces commercial imports and does not add to domestic food supplies. If there is full displacement, prices should not change and there will be no effect on incentives.

• Food aid is determined to some extent by local food production. But in the medium run it can generate a positive supply effect that increases the level of production.

Lavy applied vector auto-regression (VAR) analysis to data for Sub-Saharan Africa to test these hypotheses. The issue is not whether food aid is good or bad but how it can be used to promote economic development and improve the nutrition of the food-insecure.

Lavy found that food aid has a significant positive effect on food production. Any disincentive induced by the additional supply of food is offset by the positive effects.

The total net increase in food supply following an increase in food aid is, however, of lower magnitude than expected -- because food aid tends to replace almost an equivalent amount of regular food imports.

The extent to which an increase in food aid will lead to a drop in prices and output depends on whether it leads to a net increase in the food supply. If commercial imports decline as food aid increases, the disincentive effect is mitigated.

Food aid is more likely to have a positive effect in countries that use fertilizer intensively. One possible explanation for this is that countries that enjoy a relative abundance of regular food aid can use the resources made available through reduced food imports to invest more in the agricultural sector — which is more likely when such an investment is a condition imposed by the aid donors.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department and the African Food Security Unit — was written as a background paper for the *Food Aid in Sub-Saharan Africa* study. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Angela Murphy, room S9-114, extension 33750 (28 pages with tables).

461. Labor Market Participation, Returns to Education, and Male-Female Wage Differences in Peru

Shahidur R. Khandker

Private schools are more effective than public schools in increasing productivity — and returns on female education are at least as high as returns on male education, so governments must find ways to improve the public schools and increase girls' schooling.

Using household survey data from Peru, Khandker estimates differences between male and female participation in the labor market, productivity (measured by wages), and economic returns to schooling.

He tries to identify characteristics that enable some women, although not many, to participate in the labor market; to determine whether the private returns to education vary by gender and influence school enrollment; and to evaluate the extent to which the male-female wage gap is caused by differences in human capital.

Khandker reaches three policy conclusions:

• Public schools are less effective than private schools in raising productivity and reducing the wage gap. Policymakers should make the public school system more effective.

• Investments in education and training for girls increase their participation and productivity in the labor market more than a similar investment in boys' education increases theirs. Those investments also reduce fertility and improve the education of children and the health and nutrition of all family members. Returns are high on human capital investments in women — at least as high as an equivalent investment in men. The government must identify ways to channel more resources to women's education.

• Households and communities are probably the main sources of gender bias in parental investment in children's education, so the government must identify ways to influence the household's decisions about education. Policy research is needed to identify how households and communities affect parental decisions and how the government can intervene effectively to affect this decisionmaking.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, extension, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Belinda Smith , room S9-125, extension 35108 (51 pages with tables).

462. An Alternative View of Tax Incidence Analysis for Developing Countries

Anwar Shah and John Whalley

Traditional tax incidence analysis makes assumptions that do not apply in developing countries — estimates change significantly when analysts consider such factors as high levels of protection, rationed foreign exchange, price controls, black markets, and credit rationing.

Despite decades of studies, tax incidence analyses for developing countries continue to be based on the same shifting assumptions used in developed country studies — despite obvious pitfalls.

Taxes are assumed to be shifted forward to consumers or backward onto factor incomes.

But developing countries typically have a much different nontax and regulatory policy than developed countries do, with such features as more protection, rationed foreign exchange, price controls, black markets, and credit rationing. Shah and Whalley argue that these features can greatly complicate — even obscure — the incidence effects of taxes in developing countries.

For several taxes, taking such features into account can reverse signs or substantially alter traditionally prepared estimates of incidence effects.

Shah and Whalley discuss the implications of their findings for country lending programs and comment on how the extent to which nontax policy reform has already been implemented affects the significance of the points they raise in this paper.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to promote the development of tax systems in developing countries that are simple, fair, and efficient, and advance poverty alleviation objectives. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (62 pages with tables).

463. Redefining Government's Role in Agriculture in the Nineties

Odin Knudsen and John Nash, with contributions by James Bovard, Bruce Gardner, and L. Alan Winters

The legitimate roles of government in agriculture — especially investment and research — have often been subordinated to roles for which government has shown little competence, such as price setting and intervention in markets. These priorities must be reversed.

Government policies in agriculture have been costly and misdirected worldwide, argue Knudson and Nash.

In developed countries, those policies have cost taxpayers and consumers hundreds of billions of dollars yet failed to provide low-cost food while sustaining farm incomes. They have disrupted world trade and could create divisive trade conflicts with ramifications well beyond agriculture. They enrich larger farmers and agroindustrialists and probably accelerate the replacement of the family farm with the large farm business. In the long run they have contributed to degradation of the environment.

In developing countries, those policies have impoverished rural people without providing the food security urban consumers and policymakers want. Immense funding wasted on subsidies of fertilizer, credit, and urban consumers should have been invested in areas where private markets do not work well because the costs or benefits are difficult to internalize for private agents — infrastructure or some basic research, for example.

This inefficiency need not continue, argue Knudsen and Nash. The Uruguay Round is an ideal opportunity for developed and developing nations to strike a bargain, the elements of which should be to:

- Make agricultural trade subject to the full discipline of the GATT by eliminating waivers and exemptions that have set agricultural commodities apart from other products in their treatment under the GATT.
- Bring developing countries fully into the GATT, by eliminating their special status, which allows them to avoid reciprocity in trade policy reform and to protect infant industries or use quantitative restrictions for balance of payments purposes.
- Get all countries to reform their agricultural policies, to reduce the many policy-induced distortions that plague the sector. Measures that need reform include import restrictions, export subsidies, and dumping of surplus commodities by the OECD countries; and subsidies to fertilizer, irrigation, and credit that distort trade incentives in both developed and developing countries.

Such a bargain would result in a redefinition of governments' role in agriculture, increased sectoral efficiency nationally, and a more smoothly functioning and tightly knit world agricultural trading system.

Many of the unproductive policies detailed by Knudsen and Nash have a common cause, they say: governments' tendency to see problems as resolvable by taking income from some and giving it to others. What is needed, they say, is to reconsider the government's proper role in agriculture — and the institutional changes that would follow from that. Knudsen and Nash are specific in their suggestions for change.

Resolving the problems in agricultural policy requires withdrawing most government intervention from agricultural markets and recognizing economic rights: the farmers — to produce whatever commodities they feel will profit them best and sell them freely at home or abroad; the traders — to move goods in expectation of profits, without fear of repression; and consumers — to buy foods at the lowest prices, from foreign or domestic sources.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to investigate the impact of industrial country policy on developing countries and how impediments to structural adjustment in the latter countries can best be removed. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Karla Cabana, room N10-037, extension 37946 (122 pages with tables).

464. Does A Woman's Education Affect Her Husband's Earnings? Results for Israel in A Dual Labor Market

Shoshana Neuman and Adrian Ziderman

Household survey data indicate that in Israel a woman's education increases her husband's earnings at higher occupational levels but not at lower ones.

A recent focus on decisionmaking within the household (rather than by the individual) has opened a new field of research into the economics of marriage and the family.

Recent research indicates that in the United States, at least, a wife's education has a positive effect on a husband's earning capacity — a focused instance of the economic benefits of (particularly nonmarket) association. Even if education did not get women jobs or improve their ability to function as housewives and mothers, it is not wasted.

Such cross-productive effects may be different in the type of dual labor market that exists in Israel.

Drawing on data from the Israel Labor Mobility Survey, Neuman and Ziderman found that the wife's educational level increased a husband's earnings in Israel's primary sector (in which workers have good jobs, with good pay, security, and fringe benefits) — but not in the secondary sector (in which workers have low-paying, unstable, generally unattractive jobs).

These new findings are consistent with the general implications of the dual labor market model.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to assess the impact of women's education on productivity and family welfare. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Valerie Charles, room S6-228, extension 33651 (17 pages with tables).

465. How Integrated Are Tropical Timber Markets?

Panos Varangis

Do tropical timber price series — across species, products, and regions — move together, at least in the long run? Most do, tests show.

The tropical timber market is characterized by multiple species, multiple products, and regional patterns of production and trade. In such a market, finding a representative price is a difficult and perhaps an irrelevant task. So Varangis conducted tests to see whether prices from different species, products, and regions move together, at least in the long run. If they do, the use of a representative price may be appropriate. The analysis could also be seen as a test of whether the Asian and African/European markets are interdependent.

The following are the test results:

- All series, except that for teak, were found to be cointegrated. The results for teak may be explained on the grounds that the series was the only domestic price series; all other prices are internationally traded. Also, but not very likely, the relative shortness of the teak series may have reduced the tests' power.
- Tropical timber prices in the major geographical regions move together. There may be short-term deviations, but market forces pull these regional prices together in the long run.
- Given that prices move together, the long-run forecast for one has implications for the others.
- Log and sawnwood prices move together, which is to be expected since logs are the primary input for sawnwood.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to examine price formation in primary commodity markets. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Dawn Gustafson, room S7-044, extension 33714 (25 pages, including graphs and tables).

466. Is There An Intra-Household Kuznets Curve?

Lawrence Haddad and Ravi Kanbur

There probably is — so that the benefits of an increase in household well-being need not fully "trickle down" to the most disadvantaged members of the household — particularly in the poorest households.

Is there a "Kuznets curve" for intrahousehold inequality? Does intra-household inequality first increase, peak, and then decrease as the household becomes better off?

Haddad and Kanbur found both theoretical and tentative empirical support for this hypothesis.

The policy significance of this finding is that the benefits of an increase in household well-being need not fully "trickle down" to the most disadvantaged members of the household. This is particularly true for the poorest households.

This finding should be taken into account in the design of supplementary feeding programs, for example. Research is now under way on this topic.

This paper — a product of the Research Administrator's Office — is part of a larger effort in PRE to investigate appropriate targeting of poverty-alleviation policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jane Sweeney, room S3-026, extension 31021 (29 pages).

467. Structural Adjustment and Living Conditions in Developing Countries

Nanak Kakwani, Elene Makonnen, and Jacques van der Gaag

By and large, social indicators in developing countries improved in the 1980s, but progress was slowest in the countries that needed it the most. The data show unacceptably high mortality rates, low school enrollment levels, and extensive undernutrition in many parts of the world. Of particular concern are the declining pri-

mary enrollment ratios in intensely adjusting countries. This erosion of human capital is inconsistent with the main objectives of adjustment: sustainable long-term growth.

Kakwani, Makonnen, and van der Gaag compare trends in per capita private consumption, social sector indicators, and government spending in the social sectors, between countries that received Bank adjustment loans and countries that did not.

Most surprising was the lack of response in absorption to adjustment measures. Intensely adjusting countries showed *more* growth in private consumption in 1985-87 than did nonadjusting countries. Moreover, the government's role relative to GDP *increased* rather than decreased. This remains the case in some intensely adjusting countries even if interest payments are not considered.

There is little a priori reason, then, to believe that the poor are being hurt by adjustment because absorption is reduced. But there is still cause for concern: real per capita spending in the social sectors decreased in many countries, especially those adjusting intensely.

Health-related data show continued progress in the 1980s, probably even faster than in the 1970s, for adjusting and nonadjusting countries alike. Food production data show total per capita growth of 10 percent for 1980-87 — but significant growth in Asia overshadowed large declines in Africa, Europe, and the Middle East. Undernutrition increased in low-income African countries but was reduced everywhere else.

School enrollment rates improved significantly in the 1970s but only a little in the 1980s — and in some countries declined. Primary enrollment ratios tended to decline in the adjusting countries, especially those that reduced per capita spending on education.

Still, the data do *not* show a clear overall relationship between adjusting and nonadjusting countries in trends in most of the social indicators. By and large social indicators improved in the 1980s — but progress was slowest in the countries that needed it the most.

Improving the living conditions of the poor calls for growth-oriented policies, the effects of which will be felt only in the long run. During adjustment, immediate interventions are needed to mitigate short-run welfare losses experienced by readily identifiable groups.

The analytical foundations of those interventions must be strengthened. And long-term social sector policy must be developed to guarantee *sustainable* success against the correlates of poverty. Such policies have been shown to be feasible and affordable and hold for adjusting and nonadjusting countries alike.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to assess the impact of adjustment on living standards in developing countries. It was prepared as background for the Second Report on Adjustment Lending (RAL II). An extended version of this paper was presented at the World Bank/IFPRI Poverty Research Conference in October 1989. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (57 pages, including tables).

468. Does the Structure of Production Affect Demand for Schooling in Peru?

Indermit Gill

The more important the services sector, the more likely girls are to get more education. The more important industry, the more likely boys are to get more education. Both sexes get more schooling as the supply price of schooling falls, but girls gain more than boys do.

Analyses of gender differences in investments in human capital typically emphasize family resources as the determining factor. These studies usually find that investments in male offspring are greater, that these differences narrow as the level of household wealth increases, and that equity is also affected by the composition of household wealth (proxied by the amount the mother earns and/or her educational level).

Gill addresses one drawback of these analyses: they do not explicitly consider the factors that determine the *demand* for schooling and health — other than tastes — and why this differs for men and women. Gill uses the regional structure of the economy, proxied by the shares of services and industry in regional gross domestic product (GDP), as an indicator of the demand for educated workers. By examining whether the level of schooling as a function of shares of services and industry differs for men and women, he looks for gender bias in the demand for schooling. Gill estimates schooling demand functions for males and females using household data from the Peruvian Living Standards Survey, and provincial data from the Peruvian census.

Gill's primary findings are:

- As services and industry increase as a share of GDP, relative to agriculture's share, the demand for schooling increases for both boys and girls. (Both industry and services reward education more than agriculture does. Parents form expectations about the sector their children are likely to work in as adults and choose levels of schooling accordingly.)
- As services' share in GDP increases compared to agriculture (holding industry's share constant), girls' demand for schooling increases more than boys' demand for schooling.
- An increase in industry's share in GDP relative to agriculture (holding services' share constant) is more closely associated with an increase in the demand for schooling of boys than of girls.
- A decrease in the supply price of schooling increases the level of schooling attained by both sexes, but the gain is larger for women.
- Increases in wealth, all else being equal, are associated with increases in both sexes' demand for schooling.

What are the policy implications of these findings? Some ways to increase educational levels, especially those of women, include (on the supply side) lowering the supply price of schooling — improving access to secondary schooling, for example — and (on the demand side) expanding the services sector. The demand-side prescription contradicts the World Bank and IMF policy advice that developing countries foster the growth of tradables to service their external debt.

This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Abundo, room S9-123, extension 36820 (55 pages, including tables).

469. Modeling Economic Behavior in Peru's Informal Urban Retail Sector

J. Barry Smith and Morton Stelcner

Small family businesses that operate outside the formal system comprise a large part of the economy in developing countries and more than half the Peruvian street vendors are women. This model of informal activity in Peru's urban areas elicits policy recommendations to improve productivity (especially women's) in the informal sector.

The informal sector is a collection of loosely organized, small-scale competitive family businesses that rely little on nonfamily hired labor, use labor-intensive technologies, and operate largely outside of the legal, bureaucratic, and regulatory framework in terms of licenses, taxes, and contractual obligations.

In Lima, Peru, the informal sector makes up half the labor force, accounts for 61 percent of the hours worked, and generates an astounding 39 percent of GDP. More than half the street vendors are women.

In the informal sector, the free play of market forces determines returns to productive factors, especially labor. Informal enterprises are concentrated in low-income areas of urban centers, but rural households in Kenya and Peru, among other countries, have joined.

The informal sector is an important —if not the sole—income opportunity for growing numbers of the poor. International aid agencies have explored policies to make informal businesses more profitable. But this surge of interest is not based on much empirical evidence about what determines the firms' performance. Nor is the value of women's entrepreneurial activities reflected in the national accounts.

Smith and Stelcner analyze Peru's urban informal sector — particulary women's role in it—based on a theoretical model of informal retail trade (the dominant nonfarm family enterprises), using data from the Peru Living Standards Survey (PLSS).

They address these questions: What factors explain differences in the performance of retail businesses? If these can be identified, what types of policy initiatives might improve the performance of firms, especially those run by women? Among their recommendations:

- Channeling credit to small businesses.
- Promoting cooperatives and self-help associations, which provide credit, facilitate bulk purchases, and establish markets for entrepreneurs.
- Providing technical assistance, such as short-term instruction in basic management.
- Making it easier and cheaper to get business licenses.
- Provide or facilitate cooperative childcare centers, facilities for preparing food, and neighborhood facilities for basic health care to reduce the heavy workload typical for women.

This paper—a product of the Women in Development Division, Population and Human Resources Department—is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, extension, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Abundo, room S9-123, extension 36820 (87 pages with diagrams and tables).

470. What Do Alternative Measures of Comparative Advantage Reveal About the Composition of Developing Countries' Exports?

Alexander J. Yeats

Developing countries' "revealed" comparative advantage in labor-intensive exports tends to fall as the requirements increase for natural resources, physical capital, and human capital — including higher per capita wages and more professional or technical personnel.

Despite their extensive applications in research and policy studies, no product-level comparisons had been made between Bela Balassa's "revealed" comparative advantage (RCA) index and indices associated with the National Bureau of Economic Research (NBER) that reflect the standard Hecksher-Ohlin theory of comparative advantage.

Yeats conducted several empirical tests for developing countries' exports of manufactured products, partly to identify factors that often lead to differences between the two indices.

The results show that products in which developing countries have achieved a revealed comparative advantage are highly concentrated in a broad group of labor-intensive products; for other items, their RCAs are generally below unity.

Within the labor-intensive group, however, developing countries failed to develop a revealed comparative advantage for about half of the items.

A regression model suggests that in the labor-intensive group, revealed comparative advantage falls as the requirements increase for natural resources, for physical capital, and for human capital — including higher per capita wages, and more professional or technical personnel.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to provide basic information for analyzing the present level and composition of developing countries' exports and projecting future changes in them. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Jean Jacobson, room S8-037, extension 33710 (29 pages, including tables).

471. The Determinants of Farm Investment and Residential Construction in Post-Reform China

Gershon Feder, Lawrence J. Lau, Justin Lin, and Xiaopeng Luo

Forced consolidation of small Chinese farms into larger farms is unwarranted but China needs mechanisms to facilitate free-market land transactions, better supplies of such inputs as fertilizer, and — when those are available — a reoriented rural credit system. Early extensions of farmers' leases on state-owned land would reassure farmers about the government's commitment to the present system.

After 20 years of collectivization, China's agricultural sector was reformed in the last decade. Individual farm/household units replaced collective production. Households were given individual leases on former commune land — first for 3-5 years, but now for 15 years, and even longer for tree crops.

Household data on four areas in China in 1987-88 revealed patterns of spending on productive assets, durable consumer goods, and housing.

Using a model of household production and investment decisions, Feder, Lau, Lin, and Luo analyzed data on several factors that had been thought to inhibit investment in farm capital and encourage residential or other nonfarm investments: the typically small size of farms together with increasing returns to scale in production; inadequate credit; and farmers' perceptions of insecurity because of possible policy shifts during the life of their leases on state-owned land or the likelihood of being assigned other lands when the contract matures.

What were the policy implications of the study results?

If the four study sites reflect the situation elsewhere in China, policymakers' preoccupation with issues of farm size and consolidation are unwarranted. The production gains from consolidation would be limited and the costs substantial.

Where farms are tiny, farm size is a problem — but coercing consolidation or recollectiviza- tion would be harmful. It would be preferable to introduce institutional mechanisms and procedures to facilitate market-induced land transactions. More mobility of labor would also help.

Concerns about the inadequacy of investment finance for agricultural households are not yet justified in areas where the supply of such production inputs as fertilizer is unsatisfactory. But once the input supply system improves, limited credit will become a constraint — and the rural credit system, which is geared to rural industry and commerce, will have to be reoriented.

Radical revision of the land tenure system is not called for as the land leasing system seems not to be hampering investment. But likely erosion of investment incentives will be averted if leases are extended before they mature, reassuring farmers about the government's long-term commitment to the present system.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of an effort to investigate rural credit markets, farm investment, and agricultural productivity in China. That research is part of a larger effort in PRE to determine how financial intermediation affects economic activities. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (35 pages).

472. Gains in the Education of Peruvian Women, 1940 to 1980

Elizabeth M. King and Rosemary Bellew

What determines girls' educational attainment? School quality (measured by the number of textbooks and teachers); changes in attitudes and better economic opportunities for educated women; parents' (especially mothers') years of schooling and occupations; and the opportunity cost of sending a girl to school — especially in rural families, or when mothers must hold jobs outside the home.

Since the mid-1950s, Peru's education policies have been designed to raise skill levels and make education available to more of the population. Those policies rested mainly on expanding the number of schools. As a result, school enrollment rates and attainment levels rose. But an apparent parental preference to educate sons more than daughters meant that boys' schooling levels rose more quickly than girls.' Policies were not enough to brings girls' schooling even with boys,' especially in rural areas.

School quality, measured crudely by the supply of textbooks and the number of teachers, appears to have improved the schooling of women. Girls who had a textbook for their own use attained more than half a year of schooling than those who did not. Changes in attitudes and better economic opportunities for educated women also seem to have strengthened the demand for educating rural girls.

Parents' years of schooling and occupations were significant determinants of educational levels. The impact of these socioeconomic factors lessened over time as the number of schools expanded and primary education became more available.

The relative effects of parents' education differed for boys and girls. In the adult sample, both parents' education had a strong positive effect on daughters' education; for sons, the father's education had double the effect of the mother's education. In the youth sample, the mother's education had a stronger effect on the daughter's education. These differences reflect a preference on the part of fathers to send their sons to school, which mothers partly counter-balanced.

Peru's education policies have reduced the direct costs associated with going to school. But time allocation patterns reveal that the opportunity cost to the family of school attendance could be an effective barrier to further improvements in school enrollment and continuation rates. Even at a young age, girls — especially in rural families — participate in the labor market and contribute substantially to productive work at home.

This paper — a joint product of the Education and Employment Division and the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine how to improve women's access to education in developing countries and if and how that education improves their productivity and family welfare. The paper will be part of a book on women and the economy of Peru to be published by the Bank. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-033, extension 33640 (47 pages, including tables).

473. Adjustment, Investment, and the Real Exchange Rate in Developing Countries

Riccardo Faini and Jaime de Melo

This review of adjustment experience suggests that sharp devaluation of the exchange rate is probably ineffective in countries exporting primary goods. To encourage investment, adjustment packages must do more to ensure a stable macroeconomic environment and appropriate debt relief.

At the center of the controversy about the effectiveness of "adjustment with growth" loan packages from the IMF and the World

Bank has been the heavy emphasis on real exchange rate depreciation as a way to restore external balance and elicit a positive supply response.

Faini and de Melo examined the adjustment record for a large sample of developing countries and found that adjustment has been far more successful for countries exporting manufactured goods than for countries exporting primary goods (mostly low-income African countries).

Devaluation of the exchange rate in countries exporting primary goods appears to be ineffective. Most of their adjustment has taken the form of reduced spending rather than increased supply. As a result, they have not resumed sustainable growth.

The longer-term prospects for exporters of manufactured goods are much brighter. They show more signs of improving efficiency and less decline in investment than do exporters of primary goods.

Faini and de Melo found strong support for the debt overhang argument. That is, after controlling for other factors, they found that the resumption of private investment growth had been hampered in countries with a heavy debt burden and an unstable macroeconomic environment. Investors postpone investment until the uncertainty about a stabilization program is resolved—and low investment, in turn, increases the probability of economic deterioration. This suggests that adjustment packages must do more to ensure a stable macroeconomic environment and appropriate debt relief.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a PRE research project on the sustainability of trade reform in structural adjustment programs. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (44 pages including tables).

474. Methods for Measuring the Effect of Adjustment Policies on Income Distribution

Anne Maasland

There are a variety of approaches, and country issues and data availability will determine the most practical approach.

Maasland reviews the different methods for measuring how adjustment affects the distribution of income and characterizes them as qualitative or quantitative — and general equilibrium or partial equilibrium.

No single integrated model can answer all questions. The most practical approach for a particular country depends on the issues that the country faces — and available data and resources.

In a data-poor country with no microsurveys or good macrodata, a more qualitative, partial-equilibrium analysis will be required.

If the country has a microsurvey, poverty profiles can be quantitative and more detailed.

In a data-rich country, macroeconomic and microeconomic data can be combined to construct a computable general equilibrium model with which to generate quantitative estimates of the impact of adjustment policies.

Between these extremes, other methodologies may be applicable — depending on the availability of data and the particular focus of the reform program. Partial analysis may be relevant if a country faces special issues.

Maasland found that a study of the effects of macroeconomic policy on distribution will benefit from an analysis of microeconomic issues that address how the poor and other groups respond to the changed environment after adjustment. These responses can significantly affect the outcome of real incomes and poverty. The importance of these feedback effects suggests that wherever possible, general equilibrium effects should be considered.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the impact of adjustment programs on income distribution. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Patricia Dixon, room N11-025, extension 39175 (37 pages).

475. Does Divestiture Matter? A Framework for Learning from Experience

Ahmed Galal

An analytical framework for empirically evaluating the effects of divestiture.

The economic rationale for divestiture rests on two propositions: that it will improve firms' productive efficiency and that it will reduce the budgetary burden that public enterprises impose.

But there has been almost no empirical analysis of what actually happens after divestiture, of which enterprises are desirable candidates, and under what conditions divestiture might improve a country's economic performance.

Galal provides an analytical framework (partial equilibrium analysis) for assessing these basic arguments and evaluating the lessons of experience.

To avoid the shortcomings of the few studies that have been done, Galal says three questions must be asked: What are the changes in economic efficiency and fiscal incidence, if any? What possible factors explain divestiture outcomes? What is the causal link between outcomes and their hypothetical determinants?

Galal suggests that to tease causality out of the limited data that exists on this relatively recent phenomenon, analysts compare data on:

- The same enterprise before and after divestiture.
- Divested and undivested firms in the same sector and same country.
- The performance of the divested firm and an explicit counterfactual (the hypothetical performance of the firm had it remained public).
- The performance of divested firms in competitive and noncompetitive markets in the same country.
- The performance of divested firms in the same industry but different countries.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to: (1) assess the divestiture experience to date; (2) determine the factors that led to its success or failure; and (3) suggest how the World Bank and its borrowers may effectively use divestiture as a public policy tool to enhance economic development. This paper is a revised version of a research proposal that the World Bank's Research Committee has approved for funding. Work implementing the proposed methodology is underway in Chile, Mexico, the U.K., and Malaysia.Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Gloria Orraca-Tetteh , room N9-069, extension 37646 (31 pages).

476. Health Insurance in Sub-Saharan Africa: A Survey and Analysis

Ronald J. Vogel

The middle class, not the poor, benefit from the little health care insurance that exists in Sub-Saharan Africa. Encouraging the development of private health care insurance could free up more funds for the poor. Prepaid capitated health insurance will encourage efficiency by health providers; deductibles and coinsurance will have similar effects on health consumers.

Based on a survey and analysis of health insurance in 23 countries in Sub-Saharan Africa, Vogel reached certain conclusions:

Most Ministry of Health (MOH) budget expenses in these countries (with the possible exception of Tanzania and Ethiopia) are skewed to a small, well-defined population. The well-to-do pay for the "best" health care in the private sector, out of their own pockets or through insurance policies (usually from foreign sources).

Most poor people rely on the MOH budget as an implicit or informal form of national health insurance or on traditional healers for whose care they must pay out of pocket — paying more for traditional healers and drugs than they might co-pay on health insurance. MOH spending is low in the geographical areas where the poor live and for the kinds of health care the poor use, so the poor benefit little from these informal national health insurance systems.

The small middle class benefits most from health insurance in Sub-Saharan Africa. In the private sector, employers provide health care either directly or on contract — which is effectively health insurance. As government employees, they get preferential treatment under formal and informal health insurance, even national health insurance. The countries in Sub-Saharan Africa have not given the poor more, or more equitable, access to formal health insurance.

And the forms of health insurance adopted in Sub-Saharan Africa do not encourage efficiency. Zimbabwe, for example, where private insurance has grown rapidly since independence, has used the U.S. Blue Cross/Blue Shield model that existed in the United States in the 1960s and 1970s — in which the tax system heavily subsidized health insurance, all kinds of medical risk were covered (even for frivolous purposes), and neither the providers or consumers of health care were encouraged to restrain costs — so that health costs increased rapidly. One way or another, all the health insurance arrangements Vogel studied have the same perverse incentive effects that those open-ended, cost-based retrospective Blue Cross insurance payments had on health care providers.

Reform of these arrangements will be politically difficult. In countries with an implicit national health coverage, more equity for the poor requires that more of the MOH budget be directed their way. One way to do this would be to eliminate any favorable treatment government employees receive in the health care system. The availability of more private health insurance would similarly free more MOH resources. Governments must examine the regulatory and incentive atmosphere to be sure they are not inhibiting the development of private health insurance.

But they must also be careful that the private health insurance that does develop fosters more efficient health care. Prepaid capitated health insurance will encourage efficiency by health providers; deductibles and coinsurance have similar effects on health consumers.

This paper — a product of the Population, Health, and Nutrition Division, Africa Technical Department — was written as part of a Regional Study on Health Financing, with financial support from NORAD and SIDA. It was presented at a seminar in April 1990 and will eventually be part of a World Bank technical paper. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karol Brown, room J9-112, extension 35073 (40 pages, including tables).

477. Private Participation in the Delivery of Guinea's Water Supply Services

Thelma A. Triche

Lease contracts provide a promising format for capturing the potential efficiency gains of private participation in the water supply sector, but to ensure that these gains accrue to society as a whole, lease contracts must be carefully designed and the responsible public authority must be capable of fulfilling the monitoring and regulatory role effectively.

In 1989, the Republic of Guinea restructured its urban water supply sector and entered into a lease-contract arrangement in which private interests participate in delivering services.

Ownership of the country's urban water supply facilities and responsibility for sector planning and investment were transferred to a new national water authority, SONEG. A new water management company (SEEG) was created as a mixed enterprise by the government (49 percent) and a private foreign investor-manager (51 percent) to operate and maintain the facilities.

If carefully designed, a lease-contract arrangement can transfer maximum commercial risk to the contractor for day-to-day operations bus, unlike a concession, does not transfer ownership or the burden of capital expenditures for major new investments.

Recent experience with lease contracts and concessions in Côte d'Ivoire demonstrated that fragmentation of responsibilities for planning, investment, operations, maintenance, and debt service may lead to inefficiency and lack of accountability. And revenue protection clauses may erode incentives for efficiency.

The strength of the lease-contract arrangement in Guinea lies in the simplicity of the institutional framework, the specificity of responsibilities, and the clarity of accountability relationships and incentives. In planning investments and setting tariffs, SONEG has an incentive to maintain the financial viability of the operations on which it depends for revenue. SEEG is motivated to increase profits by operating efficiently and to avoid financial penalties by meeting service standards.

The challenges lie in the difficulty of creating in SONEG a strong oversight agency that will be able to negotiate effectively with SEEG, and the difficulty of attracting competition for subsequent contracts. Unless SONEG is successful, many of the potential efficiency gains of private participation may not be captured by consumers.

Processing the IDA credit for this arrangement was delayed because World Bank procurement guidelines do not cover the selection of contractors for lease contracts or concessions. With the growing interest in private operation of public services, the Bank should consider developing appropriate guidelines for selecting contractors for lease contracts and concessions.

This paper — a product of the Water and Sanitation Division, Infrastructure and Urban Development Department — is part of a larger effort in PRE to examine the implications of private participation in the delivery of public services. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Mari Dhokai, room S10-017, extension 33970 (30 pages).

478. Interrelations Among Child Mortality, Breastfeeding, and Fertility in Egypt, 1975-80

John Marcotte and John B. Casterline

Weaning children in infancy increases the risk of death for Egyptian children under five. Early weaning should be discouraged. Parents should be encouraged to be more careful about childcare and children's diet and hygiene after weaning.

Using Egyptian data from 1975-80, Marcotte and Casterline found that weaning children in infancy increases the risk of death for children under five. Early weaning is responsible for up to 29 percent of Egyptian children's deaths.

Children whose mothers become pregnant again are more likely to die if the pregnancy begins while the child is still an infant. Ending breastfeeding is responsible for up to 41 percent of pregnancies — 52 percent among women who do not use contraceptives.

Breastfeeding lasts an average 17 to 18 months in Egypt, so policy should probably not encourage all women to breastfeed longer, but women who breastfeed for only short periods should probably be encouraged to breastfeed longer. And parents should be encouraged to be more careful about childcare and children's diet and hygiene after weaning.

Replacement behavior in response to children's death accounts for up to 18 percent of pregnancies. It is not actual mortality but perceptions of a child's chances for survival that drive fertility. As infant deaths become less common, the proportion of replacement pregnancies should decline.

An important feature of this analysis was that fertility (represented by pregnancy) was examined simultaneously with child survival and breastfeeding, as three components of a system. The analysis involved regression models for the hazard, or risk, of three events occurring after a live birth: another pregnancy, weaning, or the death of the child.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to examine family consequences of high fertility. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (52 pages, including tables).

479. Conversion Factors: A Discussion of Alternate Rates and Corresponding Weights

Michael Hee

Time series of alternative conversion factors and of corresponding weights provides the framework for estimating overall conversion factors that are analytically relevant and meaningful.

The significant operational implications underlying the Bank's estimates of per capita GNP represent important considerations in systematizing the use of official and other exchange rates in determining the exchange rate to be used in the Bank's Atlas methodology. Hee explores the potential for a system of time series for various conversion factors and a corresponding set of time series for weights.

The framework is useful for countries with multiple exchange rates. It gives us a way to develop time series on parallel and black market exchange rates, purchasing-power parities, trade-related taxes and subsidies, and potentially more.

The starting premise is that a single official exchange rate has a weight of 1.0 in all years; all other rates (implicitly) have zero weights. A major component of this framework is the redistribution of weights among multiple exchange rates.

Such a matrix of conversion factors and corresponding weights could provide the mechanism (1) for a systematic approach to weighting alternative rates; (2) for estimating the effects of alternative weighting schemes; (3) for determining the effects of incorporating parallel or black market exchange rates; (4) for providing the basis for less erratic and unpredictable fluctuations in the data in the *World Bank Atlas* and *World Tables*; and (5) for improved and more transparent documentation of methods and "special" cases.

This paper — a product of the Socio-Economic Data Division, International Economics Department — is part of a larger effort in PRE toward a more versatile approach to estimating conversion factors for the *World Bank Atlas* and operational purposes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Estela Zamora, room S7-136, extension 33706 (59 pages, including tables).

480. An Evaluation of Neutral Trade Policy Incentives Under Increasing Returns to Scale

Jaime de Melo and David Roland-Holst

Under the most plausible scenarios about the entry and exit of firms, a policy of export promotion is likely to be more beneficial than a policy of trade protection for sectors with increasing returns to scale.

Observing the limitations of small domestic markets, Bela Balassa has advocated low, uniform, across-the-board tariffs and export subsidies — that is, tariffs of X percent balanced by export subsidies of X percent — to overcome the disadvantages of small domestic markets and to permit the exploitation of economies of scale through specialization according to comparative advantage.

De Melo and Roland-Holst show analytically and empirically that economies of scale complicate analysis of the welfare effects of trade policy, especially when some sectors have domestic market power.

In particular, the standard distortionary costs of protection under constant returns to scale must be amended to accommodate the welfare effects of changes in scale efficiency.

Calculations comparing trade policies that achieve neutrality of incentives between sales to domestic and foreign markets suggest that — under the most plausible scenarios about the entry and exit of firms — export promotion is likely to be more beneficial than protection for sectors with increasing returns to scale.

Illustrative calculations of optimal trade policy packages suggest that the benefits of departing from the principle of nondiscrimination between domestic and export sales may be insufficient to justify their higher administrative costs.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of the PRE research project "The Effects of Trade Regimes on Industrial Competition and Efficiency." Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (15 pages, including tables).

481. The Effects of Trade Reforms on Scale and Technical Efficiency: New Evidence from Chile

James Tybout, Jaime de Melo, and Vittorio Corbo

Pressure from foreign competition forces all firms toward common, higher levels of productivity.

How did industrial structure and performance change after Chile's dramatic trade liberalization?

A comparison of the 1967 and 1979 censuses shows little improvement in productivity overall — but these figures don't separate the effects of trade liberalization from the effects of recession, high interest rates, and real appreciation.

To isolate the effects of trade liberalization, Tybout, de Melo, and Corbo compared industries in which protection was significantly reduced with industries in which it was not. Several findings emerged.

First, in industries for which protection was lifted, the smallest plants tended to expand output more. Cross-plant estimates of returns to scale dropped significantly. These findings are consistent with the view that exposure to foreign competition forces suboptimally small producers toward minimally efficient scale.

Second, production levels became higher and more uniform across plants in those industries undergoing dramatic reductions in protection.

Taken together, these results support the received wisdom that increased exposure to trade improves competition within an industry.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared for the World Bank research project, "The Effects of Trade Regimes on Industrial Competition and Efficiency" (RPO 674-46). Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (44 pages, including tables).

482. Membership in the CFA Zone: Odyssean Journey or Trojan Horse?

Shantayanan Devarajan and Jaime de Melo

CFA countries fared worse than other comparable countries in the 1980s and reduced spending — particularly investments — disproportionately in adjusting to the external environment. This is an ominous sign for future growth.

For most of the 13 African members of the CFA Franc Zone, the 1980s have been a decade of slow or negative growth in per capita GDP, worsening balance of payments, debt crises, financial crises, declining competitiveness, and an apparent failure to adjust to the changed environment they inherited from the 1970s.

Devarajan and de Melo reassess the costs and benefits of membership in the CFA Franc Zone in light of its members' poor performance in the 1980s.

They base their assessment on comparisons of the members' performance indicators with indicators for comparator groups: other countries in Sub-Saharan Africa, other low- and middle-income countries, and other exporters of fuel and primary goods.

Performance indicators for members of the CFA Zone deteriorated more than indicators for other groups, especially in the second half of the decade.

Growth and investment rates, in particular, fell more for CFA countries. This decline is attributed to the CFA members' declining competitiveness as other countries undertook adjustment programs that emphasized depreciation of the real exchange rate.

Controlling for changes in the external environment, Devarajan and de Melo show that CFA countries adjusted less than comparator countries during the 1980s.

And the burden of their adjustment appears to have fallen disproportionately on reduced spending, particularly reduced investment — an ominous sign for future growth.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger research effort in PRE on the experience of economic integration. An earlier version of this paper was presented at the Conference on African Economic Issues in Nairobi, Kenya, June 5-7, 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (28 pages, including tables).

483. An Evaluation of the Main Elements in the Leading Proposals to Phase Out the Multi-Fibre Arrangement

Refik Erzan and Paula Holmes

Two approaches took the lead in the negotiations to dismantle the Multi-Fibre Arrangement (MFA): (1) a phaseout within the framework of the MFA, proposed by developing countries, the EC, Japan, and the Nordic countries, and (2) a new tran-

sitional structure relying on global quotas with country allotments for current quota holders, suggested by the United States and Canada.

- Under both scenarios, accelerated quota growth is the main device for phaseout. Country quotas, in the first approach, and global quotas in the second, will have to expand in such a way as to avoid a "shock" when they are abolished at the end of the phaseout.

To negotiate a quota-growth scenario — whether this be in the framework of the MFA or through global quotas — the parties need points of departure, such as base-year quota levels or quota growth rates. The guideline in the MFA was a 6 percent annual quota growth. Developing countries consider this a concession obtained from industrial markets and request it as the minimum base-year quota growth rate.

In fact, there were large variations in quota growth across products and suppliers, as well as across markets, and on the whole quotas expanded at a significantly lower rate. For the phaseout, the negotiating parties may therefore consider allowing some differentiation in quota growth rates, particularly across product categories.

The second most important element in the phaseout proposals — beside expanding quotas and abolishing them at the end of the phaseout period — is scrapping them along the way according to some predetermined criteria and scheme. In the proposals, this is defined in terms of country characteristics (such as new entrants and least developed countries), specific products, product characteristics (such as type of fibers or degree of processing), or some criterion pertaining to the historical record, such as quota use.

The historical record reveals that growth in highly utilized (that is, filled and binding) quotas was significantly lower compared with unfilled quotas. Phaseout scenarios based on quota growth may have to take into consideration this distinction to achieve an effective relaxation. In this context, scrapping unfilled quotas in stages, depending on their use record, would hasten the dismantling of the MFA by allowing the concentration of efforts to deal with binding quotas.

An MFA-based phaseout is appealing to many developing countries because, in principle, the "acquired rights" of the exporters can be preserved. Not for long, however. When substantial quota expansions take place, as the quotas on efficient suppliers become redundant, quota holdings will be worthless. Interestingly enough, an accelerated quota growth not differentiated across suppliers, as suggested by the developing countries, would do exactly that.

There is one important virtue in a phaseout based on the current structure of the MFA. Not only are the mechanisms in place familiar to the negotiating parties, but so are the magnitudes of most of the parameters: current quota levels, quota growth rates over the last few years, and their use ratios. If this approach is adopted, however, the parties have to make a concerted effort to keep in mind that this is not an extension of the MFA, but its abolition.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to provide technical support to the developing countries in the Uruguay Round of Multilateral Trade Negotiations under the auspices of the GATT and to contribute to the analysis of substantial issues therein that pertain to the broad development objectives of the World Bank. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Grace Ilogon, room S8-038, extension 33732 (46 pages, including tables).

484. Stock Markets, Growth, and Policy

Ross Levine

How stock markets can accelerate growth and how policy can affect that growth either directly (by altering investment incentives) or indirectly (by changing the incentives underlying the creation of financial contracts).

To help explain the role of financial markets in economic development, Levine constructs an endogenous growth model in which a stock market emerges to allocate risk. The model explores how the stock market alters investment incentives in ways that change steady-state growth rates.

Levine demonstrates that stock markets can accelerate growth by (1) facilitating the ability to trade ownership of firms without disrupting the productive processes occurring within firms, and (2) allowing agents to diversify portfolios across firms.

Policy affects growth directly by altering investment incentives and indirectly by changing the incentives underlying the creation of financial contracts.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the role of financial markets in economic development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ross Levine, room N11-023, extension 39175 (33 pages).

485. Do Labor Market Distortions Cause Overvaluation and Rigidity of the Real Exchange Rate?

Ramón Lopez and Luis Riveros

Liberalization of the labor market would substantially reduce or prevent overvaluation of the real exchange rate.

Lopez and Riveros developed a theoretical model for analyzing the effect of labor markets on the real exchange rate. They applied an empirical version of the model to four Latin American countries with relatively different labor markets and macroeconomic conditions.

They found that distortions in the formal labor market are a major factor causing real wage rigidity and the low responsiveness of the real exchange rate to nominal devaluation.

They also found that changes in the minimum wage have substantially broader effects on an economy's wage structure than previously thought.

In other words, liberalization of the labor market could make exchange rate policies more effective by preventing overvaluation of the real exchange rate.

This paper — a joint product of the Trade Policy Division and the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to identify the role of labor markets in the process of economic adjustment in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Raquel Luz, room N11-057, extension 34303 (32 pages, including tables).

486. A RMSM-X Model for Turkey

Luc Everaert, Fernando Garcia-Pinto, and Jaume Ventura

The theoretical design of a RMSM-X model, its interaction with a debt module, and the construction of a consistent historical data set is applied to Turkey.

To improve the Bank's macroeconomic modeling capabilities, the Country Economics Department is developing a continuum of macro models referred to as RMSM-X and RMSM-XX. These models share a common accounting framework that ensures economic consistency among economic sectors.

RMSM-X is the simplest model, with an elementary economic structure. The RMSM-XX more richly specifies the behavioral links among economic variables.

Everaert, Garcia-Pinto, and Ventura show in detail how to specify the budget constraints and market clearing conditions in a RMSM-X model for Turkey. They include six sectors: the Government, the State Economic Enterprises, the Central Bank, the domestic banking system, the nonfinancial private sector, and the foreign sector. The different markets consist of a domestically produced and exportable good, an importable, a money market, a domestic credit market, a quasi-market for Central Bank Credit, and a foreign asset market. This model can be used to project the behavior of these sectors in a simple manner, linked through the various markets.

They explain four possible closures of the model. One choice depends on whether policy variables are exogenous (the positive closure) or targets on economic variables are given and policy variables are solved for (the normative closure). Under both closures, a second choice, depending on whether an external credit constraint or target is binding or not, is implemented.

The interaction of the projection model and a debt module is explained in detail. The debt module, which in the future should become automatically linked to the DRS, allows the user to experiment with different forms of debt restructuring in a simple manner. The debt module also allows the calculation of the supply schedule for foreign credit and the projection in detail (by creditor) of debt stocks, capital flows, and interest payments.

Finally, since the model is based on the concept of a consistent flow of funds among all the specified sectors, it is necessary to build a consistent historical data set for at least the base year. Appendix 1 explains how such a set of consistent macroeconomic data was constructed.

The RMSM-X model presented in this paper will be extended to include more estimated behavioral relations (RMSM-XX) for future operational work on Turkey. Applications of the RMSM-X model have also been developed for Colombia, Zimbabwe, Chile, and the Philippines.

This paper — a joint product of the Macroeconomic Adjustment and Growth Division, Country Economics Department and the Country Operations Division, Country Department I, Europe, Middle East, and North Africa Regional Office -- is part of a larger effort in PRE to assist in the design and analysis of macroeconomic policies. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sanjev Aggarwal, room N11-019, extension 39176 (59 pages plus 105 pages of appendices).

487. Industrial Organization Implications of QR Trade Regimes: Evidence and Welfare Costs

Timothy Condon and Jaime de Melo

A three-sector calibrated simulation model is used to examine the welfare effects of an increase in quantitative trade restrictions when production in some sectors is characterized by increasing returns to scale.

The empirical evidence reviewed by Condon and de Melo suggests that in developing countries that protect trade with quantitative restrictions (QRs), too many domestic manufacturing firms tend to operate on too small a scale, often making above-average profits.

Cross-section econometric evidence — considering factors that influence profitability in three sectors — supports the view that imports impose a *discipline* on the behavior of domestic firms. That is, firms in sectors with heavy imports tend to adopt pricing rules that resemble competitive behavior.

On the basis of this evidence, Condon and de Melo built a three-sector simulation model to examine the welfare effects of an increase in QRs in sectors that have increasing returns to scale. They introduced several model variants to ascertain the effects of industrial organization considerations: firm exits/entries, departures from competitive pricing, interactions between entry and pricing rules, and economies of scale.

They performed numerical simulations on a representative three-sector semi-industrial economy (the sectors being agriculture, manufacturing, and services). The simulations involved progressively tighter QRs, starting from a regime with no QRs.

These simulations suggest that the traditional welfare costs for moderate rationing could be tripled if the manufacturing sector had increasing returns to scale.

A 20-percent rationing of intermediate and consumption goods could result in a welfare loss of about 2 percent of national income if economies of scale and industrial organization are not considered. When industrial organization considerations are considered, the welfare loss could quadruple.

Simulations conducted for alternatives — the entry of enough firms to eliminate profits or oligopolistic pricing with no new firms entering the sector — suggest a trade-off between excessive firm entries and collusive behavior. Collusive behavior causes welfare losses because of anti-competitive pricing but facilitates the exploitation of economies of scale. The welfare gains of moving to competitive pricing through the entry of new firms are mitigated because firms operate on a smaller than optimal scale.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to help developing countries design more effective trade policy. Specifically it is part of a PRE research project on "Industrial Competition, Productive Efficiency, and Their Relation to Trade Regimes." An earlier version of the paper was presented at the meeting of the "Applied Econometric Association" in Istanbul in December 1986. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Rebecca Sugui, room N10-031, extension 37951 (23 pages, including tables).

488. Prepaid Financing of Primary Health Care in Guinea-Bissau: An Assessment of 18 Village Health Posts

Per Eklund and Knut Stavem

Flat-fee prepayment may be the only feasible cost recovery scheme for primary health care in rural villages of Guinea-Bissau. The level of satisfaction was high in this simple prepayment scheme for drugs and limited primary health care in 18 villages. In a larger health system or in an urban area, it might be more difficult to administer such a scheme and to prevent abuse of the system.

With population growth increasing and budgets declining, the need for cost recovery in health care has grown. Eklund and Stavem report on a prepayment scheme for drugs and limited primary health care at 18 village health posts (USBs) in Guinea-Bissau.

At these health posts, adverse selection was reduced because enrollment in each village was almost universal. The villages provided construction materials and labor — and indicated their willingness to pay more if drugs were available on a timely basis. (Drugs are heavily subsidized, and supplies rapidly depleted.)

Despite rapid depletion of drug stocks, the level of satisfaction was high. Villagers' willingness to prepay was often linked to better service, with drugs more readily available and midwives better trained.

Still, the quality of service at village health posts can only be as good as the support they get from the rest of the health care system. Authorities must strengthen health center support services and improve the drug resupply system. Workers at each post could also use bicycles — which might be offered through an incentive or credit scheme.

Flat-fee prepayment may be the only feasible cost-recovery scheme at the village level. In a larger health system or in an urban area, it might be more difficult to administer such a scheme and to prevent adverse selection and overuse of services.

Thi s paper — a product of the Population, Health, and Nutrition Division, Africa Technical Department — was written as part of the Africa Regional Study on Health Financing, with financial support from NORAD and SIDA. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karol Brown, room J9-112, extension 35073 (50 pages, including tables).

489. Health Insurance in Zaire

Donald S. Shepard, Taryn Vian, and Eckhard F. Kleinau

This in-depth study of health insurance schemes in Zaire recommends developing more pilot insurance systems in areas where health systems already function — and strengthening existing systems through training, exchange visits, information systems, and technical assistance. Implementing a nationwide health insurance system is not likely to be as successful as decentralized, locally managed plans.

After identifying 12 systems of health insurance in Zaire, Shepard, Vian, and Kleinau prepared detailed case studies of four systems (two urban and two rural) and brief studies of four others. The case studies focused on the terms of the insurance plans, their organization and management, resource mobilization, efficiency, equity, client perceptions, and the quality of services. Among the lessons learned:

- Plans vary substantially in the services covered. Consumers found coverage of ambulatory care attractive despite substantial premia or required copayments. Only half the plans covered inpatient care.
- The most successful schemes had modest premia.
- Acceptable quality of service is a precondition for successful implementation of an insurance scheme.
- The implementation of voluntary schemes requires publicity within the community at the outset.
- The risk that insurance plans would be overcharged was limited by the decentralization and direct management.
- Simple control methods, such as printed premium stamps, detailed descriptions of enrollees, and the enrollment of entire families, helped reduce fraud and error.
- Appropriate investment strategies preserved the value of premium income. Investing in imported drugs was a hedge against erosion of the purchasing power of premia.
- Financial analysis of the insurance systems requires better accounts. Few insurance plans had good financial reports of the health delivery plan, much less of the insurance plan.
- A financial guarantor (for example, a development organization guaranteeing the first year's services) boosts the public's confidence in the insurance system.
- Evidence of adverse selection and moral hazard was found in most plans. Their impact can be moderated by requiring that the entire family joins or by enrolling employee groups.
- Informal associations exist that finance members' health care through interest-free loans to pay for births, hospitalizations, and other emergencies.

This paper — a product of the Population, Health, and Nutrition Division, Africa Technical Department — was written as part of the Africa Regional Study on Health Financing to aid the ongoing sector adjustment dialogue in Zaire. The study received outside financial support from SIDA, NORAD, and the U.S. Agency for International Development. It was presented at a seminar in April 1990. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karol Brown, room J9-112, extension 35073.

490. The Coordinated Reform of Tariffs and Domestic Indirect Taxes

Pradeep Mitra

Tariff reform for trade liberalization must be seen as part of a broader program of tax reform. Customs duties on imports should be geared chiefly to protection. Reductions in such duties to promote an outward-oriented development strategy should be offset by increases in sales / value-added *taxes applied equally to imports and domestic production. That would maintain public revenues and avoid exacerbating macroeconomic difficulties.*

Tariff reduction designed to move toward an outward-oriented development strategy will work only if alternative revenue sources can be found to offset revenue losses that often accompany reduced protection. The reason is that such losses can exacerbate macroeconomic difficulties, lead to delays or reversals in trade liberalization programs, and make policy change less credible.

Tariffs on imports do two things: protect domestic producers and raise public revenues. Even the poorest countries have essentially two instruments for fulfilling those two objectives: (i) customs duties and (ii) sales taxes and value-added taxes (VATs) on imports. Since the customs duty raises the price facing domestic producers of an imported good above the world price, it is a subsidy to domestic producers. Since the sales tax/value-added tax, together with the customs duty, raises the price facing users of the import above the world price, they tax domestic users. The customs duty can then serve protection objectives, while the two together can be designed to meet revenue requirements.

Opportunities for radical redesign of the incentive structure are rare. The following integrated structure of taxes cum tariffs provides a point of reference toward which less comprehensive reforms may be directed:

- A uniform basic customs duty of no more than 10-15 percent and an exemption from duty for imported inputs entering export production.
- A basic uniform VAT (preferably on consumption) — the rate determined by revenue requirements — on both domestic production and imports with agriculture exempted, particularly nonmarketed food consumed by the poor.
- A luxury or excise tax applied at a common rate to both domestic production and imports of selected items.
- Zero rating of exports under the VAT.
- Taxes on selected exports either where world demand for the country's exports is expected to remain inelastic or where the country is subject to export quotas.

It is important to view the foregoing elements as part of an interrelated package: for example, attempts to unify customs duties at levels higher than the recommended range would create administrative problems in implementing duty exemptions on inputs entering domestic production.

Coordinated reform of an existing distorted structure of tariffs and domestic taxes would include the following:

- Matching the sales and value-added tax rates on domestic production and imports, to transfer the function of protection to customs duties.
- Bringing customs duties on items for which there is no domestic production and which are therefore purely revenue-raising under the rubric of the sales tax/value-added tax.
- Offsetting any reduction in customs duties with an equivalent increase in the sales tax/value-added tax structure — which, since that tax applies to domestic production as well as imports, would increase revenues. A smaller-than-equivalent upward adjustment in the sales value-added structure would therefore suffice if the change were required to be revenue-neutral.

More realistically, the rate structure might have to be raised beyond the point of revenue-neutrality to allow for assistance to sectors hurt by the tariff reduction. Such assistance, if extended through the budget process, would have the advantage vis-a-vis protective tariffs of being explicit and thus subject to periodic scrutiny.

This paper — a product of the Public Economics Division, Country Economics Department — is part of an ongoing program in the Public Economics Division to explore the relationship between trade liberalization and the public finances in revenue-constrained economies. The paper was prepared for the World Bank Conference on Tax Policy in Developing Countries, held in March 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (47 pages).

491. How Well Do India's Social Service Programs Serve the Poor?

Nirmala Murthy, Indira Hirway, P. R. Panchmukhi, and J. K. Satia

Reaching India's poor calls for greatly improved social service delivery systems, better targeting of the poor, more coordination between agencies, policies aimed at income generation, and more involvement of the poor and of nongovernmental organizations.

This literature review was initiated to fill the research gap on how well social service programs serve India's poor.

The authors found that India's social services were used relatively little by the poor — whether they were programs for the general public (such as education), programs targeted to the poor (welfare and social security), or programs meant especially to help the poor (nutrition).

The health and education of the poor has improved but not as much for the population as a whole. Children's nutritional status has changed little in the last 20 years. Legislation to protect the poor cannot be enforced.

The reasons that all social service programs did so little to alleviate poverty are similar:

- Physical access to education and health services has improved but inequalities exist because of biases in locating facilities. The access of the poor to housing, social security, and social welfare services has been limited partly because these services were inadequate relative to needs and partly because services leak to the nonpoor. Existing social service programs tend to maintain the status quo and sometimes even strengthen class differences.
- Social service policies are not comprehensive enough, reflect little understanding of demand, and ignore difficulties of implementation.
- The quality of services is low, their pattern not uniform. Issues common to the social sector delivery systems are weak management, ineffective targeting, and inflexible service delivery systems that result in a mismatch between perceived needs and services delivered. The bureaucracy is inadequate to reach the poor. Existing capacity and resources are inadequate, particularly for education and health.

Evidence from the government and NGO programs suggest that the poor can be reached effectively if:

- Policies focus on them and are linked more closely to income generation.
- An appropriate service delivery system is designed and implemented and efforts to alleviate poverty are integrated into it.
- Services of different agencies are

coordinated.

• The poor and nongovernmental organizations (NGOs) are involved and given an appropriate role. NGOs' ability to serve the poor varies. Their coverage is 25 to 30 percent in education and health, but nearly 100 percent in welfare services. The government has been reluctant to involve NGOs in its housing program.

The review found no evidence to link social service inputs to labor productivity.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to improve the management of poverty reduction programs. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37483 (73 pages).

492. Automotive Air Pollution: Issues and Options for Developing Countries

Asif Faiz, Kumares Sinha, Michael Walsh, and Amiy Varma

Automotive air pollution will intensify with increasing urbanization and the rapid pace of motorization in developing countries. Without effective measures to curb air pollution, some 300-400 million city dwellers in developing countries will become exposed to unhealthy and dangerous levels of air pollution by the end of the century. Administratively simple policies that encourage clean fuels and better traffic management are the most promising approach to controlling vehicle pollutant emissions in developing countries.

Automotive air pollution, once largely a problem of developed countries, will spread to the developing countries in the next decade because of the rapid pace of urbanization and motorization there.

Rising incomes, combined with more desire for travel and personal mobility, will increase automobile ownership and bus transport in Asia, the Middle East, Eastern Europe, and parts of Africa. The need for fast, reliable distribution of goods, the increasing pace of containerization, and the selection of transport options on the basis of service rather than price alone will increase reliance on trucks for freight transport. As motor vehicle ownership approaches saturation levels in North America, Western Europe, and Japan, most growth will be in developing countries.

Automotive air pollution will be worst in big cities, particularly in Latin America and Asia — but also in Eastern Europe and the Middle East.

The growth in road transport is unlikely to be curbed in developing countries. Possible actions and countermeasures to control automotive air pollution encompass energy efficient and environmentally clean vehicles, clean fuels, traffic management, and a policy framework including regulatory, pricing, and taxation measures. The most promising approach in developing countries, however, is through clean fuels, sound traffic management, and administratively simple policy measures — such as a tax on leaded gasoline combined with a rebate on the use of ethers as octane boosters. This could encourage refineries to change their products and encourage users to substitute more appropriate vehicles. Owners of bus and taxi fleets could be given incentives to run vehicles on alternative fuels — such as LPG, GNG, or alcohol — and vehicle taxes and license fees could be designed to discourage the ownership and use of polluting vehicles.

Appropriate response measures should be based on sound information and cost-effective programs. They should be equitable in their impact on industry and consumers and introduced with enough lead time to give enterprises and consumers time to adjust — to reduce widespread evasion and gain public acceptance.

An emissions control policy should include an emissions inventory to assess the relative contribution of motor vehicles to overall pollution; emission standards based on a realistic evaluation of costs and expected compliance; identification of specific problems and appropriate countermeasures based on their cost-effectiveness; design of a policy framework to ensure success of control measures; an appropriate institutional set-up; and appropriate monitoring and evaluation.

Although there is a consensus on the need to reduce lead in gasoline and sulfur in diesel fuels, knowledge of the cost and effectiveness of various control measures is inadequate. More research is needed in the following areas:

• The characteristics and amount of automotive air pollution in urban areas in developing countries.

• The environmental characteristics of reformulated and substitute transportation fuels.

• The cost-effectiveness of various measures to control motor vehicle emissions.

• An evaluation of vehicle inspection and maintenance programs.

• The environmental management of urban buses and paratransit vehicles.

This paper is the result of an informal collaboration between the Bank's Transport Division, Infrastructure and Urban Development Department, and the Industry and Environment Office of the United Nations Environmental Program on transport-related environmental issues. It is part of a larger effort in PRE to address environmental concerns in the Bank's operational work. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Pamela Cook, room S10-063, extension 33462 (109 pages with tables).

493. Tax Reform in Malawi

Zmarak Shalizi and Wayne Thirsk

Malawi's comprehensive reform of its tax system in the 1980s illustrates many of the issues that developing countries must address when altering the way they levy taxes.

Malawi embarked on a comprehensive tax reform in the mid to late 1980s with World Bank assistance. This paper looks at the problems in Malawi's revenue system that prompted the reform, and examines the nature of the solutions offered and their rationale.

In the early 1980s, the flow of external funds dropped precipitously. This decline coincided with the loss of Malawi's primary foreign trade artery (80-90 percent of exports and imports) due to the closure of rail lines in neighboring Mozambique. These shocks resulted in a sharp increase in the servicing of Malawi's external debt and defense spending, thereby creating a pressing need for more revenue. At first the Government raised the rates on those tax bases that were administratively the easiest to tax, such as trade. By 1985, the tax to GDP ratio had increased by almost 50 percent. However, it was increasingly apparent that the ad hoc, temporary measures were inconsistent with the creation of a more liberal economic environment in the long run. This led to a reexamination of the tax system as a whole.

It was decided that the reformed tax system should build as much as possible on existing instruments, generate at least as much revenue and be at least as equitable. With these constraints in mind, a de facto VAT was created through the manufacturing/import stage by introducing a crediting mechanism in the existing surtax. The change was intended to reduce production distortions arising from the taxation of inputs. The tax was also applied to large agricultural and trading establishments. The import surtax was modified to be consistent with the domestic surtax and the non-protective elements of import tariffs were merged with the reformed surtax. These changes helped shift the base of taxation from production and trade to consumption. Equity features were introduced through a redesign of excise taxes and their merger with the surtax. For companies, existing investment credits and allowances were amalgamated into a single allowance at a higher rate to benefit new investment, keeping the average effective tax rate high for revenue reasons. Small changes were made to simplify personal income taxes. The ground was laid for improving procedures and computerizing tax administration and creating a tax analysis unit.

Most of the recommendations have been successfully implemented over a three year period despite difficult economic circumstances in the country. The new system has even raised more revenue than the old, though that was not a specific goal of the reform. However, since the budget deficit remains high and inflation continues to be a problem, further base expansion will be necessary before the currently high statutory company tax rates and basic surtax can be reduced.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to evaluate tax reform efforts in developing countries (RPO 674-52). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (55 pages, including tables).

494. Alleviating Transitory Food Crisis in Africa: International Altruism and Trade

Victor Lavy

Food aid compensates for up to half the drop in food production during food crises in Sub-Saharan Africa; imports make up another 30 percent. Both stabilize food consumption and neutralize the effects of random shocks to domestic food production.

Lavy compared the role of food aid and commercial food imports in offsetting food "shocks" and covering the shortfall in food consumption in 26 countries in Sub-Saharan Africa.

Food aid to low-income countries with transitory or chronic food insecurity has been criticized on the grounds that:

- The international response to food crises is slow, meager, and inefficient.
- Food aid is discriminatory, depending on the recipient country's political and economic orientation.
- Food aid discourages domestic food production and encourages dependence on donors.
- Food aid depresses commercial imports of food, reducing the amount of food available.
- By alleviating shortages food aid allows countries to postpone or cancel politically costly economic reform.

But Lavy found that:

Food aid and commercial food imports stabilize food consumption and neutralize the effects of random shocks to domestic food production. Food aid compensates for up to half of the drop in food production; imports make up an additional 30 percent.

In other words, every one-ton drop in cereal production is offset by the delivery of 0.8 tons of cereal and dairy products from abroad. There is a lag in this response over a four-year period, but most of the aid is received in one to two years.

Surprisingly, the pattern of aid flows provides no evidence of discrimination by donors. Countries classified as socialist with military governments, and countries that do not protect human or political rights, receive an equal amount of aid during acute food shortages.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — was written under the auspices of the African Food Security Unit of the World Bank, as a background paper to the Bank's study, *Food Aid in Sub-Saharan Africa*. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Angela Murphy, room S9-114, extension 33750 (25 pages).

495. The Changing Role of the State: Institutional Dimensions

Arturo Israel

The quality — not the size — of the state is what counts. And a prerequisite for changing the role of the state is an improved political process. Without that, any new development strategy will fail.

Most countries struggling to achieve economic growth and broader development objectives in the last 10 years have changed their strategies to incorporate two basic thrusts: a consistent macroeconomic and sectoral policy framework and a diminished role for the public sector, with more reliance on the private sector.

Israel emphasizes four points in this paper:

First, the argument that the size of the public sector must be drastically reduced has probably been taken too far, with no real analysis of the full consequences of the shift. Often the dismantling of some functions implies the establishment of others. (The existence of a competitive market is more important than private ownership.)

Second, a prerequisite for successful development of the private sector is a modernized, highly efficient public sector — particularly in key areas of policy management and regulation. The quality of the state is at issue, not its size. That quality depends on the state's being able to do at least five things in economic management:

- Design, monitor, and implement consistent macroeconomic and sectoral policies.
- Provide an enabling environment for competition, private or public.
- Privatize wisely and effectively.
- Conduct an effective dialogue with the private sector.

• Operate the remaining public enterprises more effectively.

To do each of these things, government will need fewer mid-level employees and more high-level professionals.

Third, the number of activities the public sector can safely and effectively undertake is limited. To force additional functions on the public sector increases exponentially the chances of failure and poor performance.

Fourth, a prerequisite for changing development strategy is a more effective *political* process. Seldom mentioned, this point is crucial — otherwise the new development strategy will fail. Ingredients of a more effective political process include a long-term perspective in policy design; a minimum level of stability in policy; a low level of corruption; and a general sense that political control does not necessarily imply public ownership or operation. These points are widely accepted in principle but not in practice, says Israel.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — was produced as background material for the Conference on Institutional Development held in December 1989. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Zeny Kranzer, room N9-051, extension 37494 (35 pages).

496. Issues in Evaluating Tax and Payment Arrangements for Publicly Owned Minerals

Robert Conrad, Zmarak Shalizi, and Janet Syme

No single revenue instrument can be assumed to be superior for mineral-dependent developing countries. And more than one instrument may be needed to meet a government's multiple objectives.

Many developing countries depend heavily on mineral extraction to generate fiscal revenue and earn foreign exchange. Are these countries collecting enough in return for depleting their reserves? Are they carrying too much of the risk? Conrad, Shalizi, and Syme describe work in progress to develop a practical framework for analyzing these questions.

In the first part of the paper they review the central issues that must be addressed in designing mineral tax and payment schemes. They note the need to determine both the opportunity cost of mineral extraction (including externalities vis-a-vis other sectors of the economy) and the costs borne by the country through risk-sharing arrangements.

Observing that at present there is no practical analytical framework to analyze tradeoffs or determine the rate structure for different revenue generating instruments, they introduce a simple cash-flow model in the second part of the paper. With this model they illustrate how different instruments affect risk-sharing between the government and the producer. Applying criteria for ranking revenue instruments to three typical instruments — royalties, income taxes, and resource rent taxes — they conclude that although profit- and rent-based taxes are gaining in popularity over production-based taxes, no single instrument can be presumed to be superior for mineral-dependent developing countries. Each country has different endowments and faces different risks. These factors must be taken into account when selecting instruments and determining rates. In some cases production-based payments, such as royalties, may be justified and should not be systematically deemphasized as they are now.

Using simple models of the type described in the paper will enable governments to engage in reasonably sophisticated risk analysis at a relatively low cost when designing tax and payment arrangements. Further work is required to develop a practical framework which models additional tradeoffs.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to identify mineral payment/tax systems in developing countries that are simple, fair, and efficient. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (50 pages with figures and tables, plus 19 pages of appendices).

497. The Measurement of Budgetary Operations in Highly Distorted Economies: The Case of Angola

Carlos Elbirt

A proper measurement of Angola's 1989 budget should reflect the tremendous difference between official and parallel market prices at which transactions are undertaken. If all transactions are "valued" at parallel market prices, the budget deficit for 1989 would drop from 22 percent to 12 percent.

In a highly distorted economy such as Angola's, budget accounts can be misleading — because prices in the parallel market, including the exchange rate, represent up to 100 times official prices.

Parallel prices are the real opportunity costs for consumers and guide them in their decisions. So budget accounts may not truly show the resources they are supposed to measure.

Angola's government collects taxes and pays expenses in two currencies: strong kwanzas (with attached buying rights, such as access to hard currencies or goods) and weak kwanzas (which must be used in the parallel market).

In adjusting Angola's 1989 budget, Elbirt assumed that all tax revenues or transfers from oil companies were in strong kwanzas, all other taxes and revenues in weak kwanzas, and expenditures varied. He found the composition of revenues in the adjusted budget to be totally different from the nonadjusted one. Oil revenues represent 98 percent of revenues, not 48 percent, as in the original budget. So dependence on oil revenues is underestimated.

The composition of spending also changes, but not as radically. Wages remain the largest item. Extrabudgetary items rank second, rather than third, among expenditures — at 24 percent, not 12 percent.

Should Angola's exchange rate and prices be liberalized, the budget for 1989 would tend to look like this adjusted budget — because the conversion prices used to adjust the budget resemble market prices. So the impact of policy adjustment would be as follows:

• The deficit would decline from 22 percent of GDP toward 12 percent, depending on the extent of price and exchange rate adjustments. Nominally the budget deficit would increase, but that would be a mere accounting change.

• Any additional reduction of the budget deficit would require active budget policies. In Angola, the wage bill and extrabudgetary expenditures account for more than half of government spending, so those items would have to be cut. Personnel costs account for more than 16 percent of GDP: cutting them by 10 percent would reduce the deficit by more than 10 percent.

• Wage remonetization should be neutral in terms of the nominal deficit of the consolidated public sector (the central government, parastatals, and financial institutions). The extra benefits parastatals would enjoy from price liberalization would compensate for the central government's extra spending on wages, if price liberalization and wage remonetization are strictly synchronized.

This paper — a product of the Country Operations Division, Southern Africa Department, Africa Regional Office — is part of a larger effort in the World Bank to study a highly distorted economy with a view to identifying appropriate development policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Terry Gean, room J11-250, extension 34247 (16 pages).

498. The Build, Operate, and Transfer ("BOT") Approach to Infrastructure Projects in Developing Countries

Mark Augenblick and B. Scott Custer, Jr.

In a typical BOT infrastructure project, a private-sector project company builds a project, operates it long enough to pay back project debt and equity investment, then transfers it to the host government. Does the BOT approach work? It can. But if the same project can be implemented as a turnkey construction contract financed by sovereign borrowings, the time saved and the greater certainty of the project going forward may warrant the more traditional approach.

Augenblick and Custer review the BOT (build, operate, and transfer) approach to building and financing such infrastructure projects as power plants, toll roads, port facilities, transmission lines, and water supply systems in developing countries.

In BOT projects, private-sector sponsors—usually international construction contractors, heavy equipment suppliers, and plant and system operators, often together with local partners — make equity investments (typically 10-30 percent of the total project cost) in a private project company that will *build* the project, *operate* it long enough to pay back the project debt and equity investment, and then *transfer* it to the host government.

The project company raises debt financing (typically 70-90 percent of project costs) from commercial sources, usually backed by export credit guarantee agencies and by bilateral and multilateral lenders. Substantial support from host governments is required.

The BOT approach was developed in the late 1970s in response to constrained developing country budgets and a downturn in work available for international construction firms. Construction firms may no longer be as interested in promoting BOT projects as they were earlier. Many BOT projects have been proposed, but few have proceeded to financial closure, let alone full implementation, in developing countries.

The BOT formula for infrastructure projects is by no means a panacea, conclude Augenblick and Custer. BOT projects are exceedingly complex, financially and legally. If countries can implement the same project in a more traditional way — with sovereign borrowings financing a turnkey construction contract — the time saved and the greater certainty of the project going forward may warrant the more traditional approach.

But if a country is unable — or for budgetary or policy reasons prefers not — to finance all needed infrastructure from budget resources or sovereign borrowings, the BOT approach is one option. And in the right context it appears to be workable.

Moreover, BOT projects should become easier to negotiate and implement as their basic structure is better understood and as standard solutions to common issues become more accepted by host governments and in the marketplace.

A BOT project may provide some "additionality" in tapping sources of private financing that otherwise might be unavailable. The sponsors' commitment of substantial equity to a project assures that they will remain committed to the project's successful operation over the concession period. Their "at-risk" investment provides a strong incentive to have the project perform above its minimum expectations. If the project is properly structured, the benefits of such enhanced performance will be shared with the host government. Having the design, implementation, and operation of a BOT project largely in the private sector's hands may provide economies and efficiencies that balance or even outweigh the higher financing costs of nonsovereign borrowing and equity investment.

But a host government that wants to promote BOT projects must understand and be willing to accept the complexity and time-consuming nature of the process, the extensive host government support that must be provided, and the rates of return that commercial lenders and private equity investors will expect.

This paper — commissioned by the Bank's Legal Department and co-sponsored by the Technical Department, Europe, Middle East, and North Africa Regional Office and by the Infrastructure and Urban Development Department — is part of a larger effort in the World Bank to review different techniques of privatization of traditional public sector activities, examine how they have been applied in practice, and evaluate their strengths, their shortcomings, and the conditions for their successful application in World Bank member countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Dolie Schein, room F4-026, extension 70291 (51 pages, plus 46 pages of annexes).

499. Taxing Foreign Income in Capital-Importing Countries: Thailand's Perspective

Chad Leechor and Jack M. Mintz

Disregarding the international dimension of tax policy is risky. Foreign tax regimes and international tax-planning practices of companies can frustrate domestic goals of taxation.

In this paper, Leechor and Mintz propose a framework for analyzing international-income taxation. The standard approach, involving the user cost of capital, is extended to incorporate the role of tax policy implemented by the home country. The usual presumption that only taxes of the host country matter is shown to be invalid, except under very restricted circumstances. The authors also apply this new framework to an empirical analysis of Thailand's policy issues.

Tax provisions of home countries vary significantly. Of particular relevance are (1) whether remitted earnings are taxed at home, (2) if so, whether they receive any unilateral tax relief, that is, deduction or foreign tax credit, (3) whether the home country accepts tax sparing, which allows firms to retain the tax benefits provided at source, and (4) the scope and extent of deductible expenses, which generally differ from those of the host. These provisions may counteract the host's tax measures, particularly the use of tax concessions.

Also of interest to the host are firms' international tax planning opportunities. First, in an increasingly integrated world economy, firms have considerable freedom in redeploying capital across countries. Second, there is substantial scope for firms to reallocate income and expenses between the host and the home countries through internal pricing policies. Third, firms can devise an advantageous financial structure by choosing appropriate debt-equity ratios and by borrowing in a country where treaty provisions are favorable. These strategic decisions can circumvent the host's effort to raise taxes.

Thailand has come to grips with many of the issues. It has sought and achieved double-taxation agreements with most of its trading partners. It has attracted substantial foreign investments and collected the attendant revenue. Its tax policy remains vulnerable in many areas, however. There are, for example, inadequate safeguards against excessive leverage, transfer pricing, and treaty shopping. Its strategy concerning tax incentives could also be strengthened to remove the barriers for extending the treaty network and enhancing regional coordination.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to understand the impact of tax policy on capital formation in an open economy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (97 pages with tables).

500. Projecting Fertility for All Countries

Eduard Bos and Rodolfo A. Bulatao

New procedures for projecting fertility for all countries incorporate past trends to generate short- and long-term population projections.

As part of its worldwide population projections, the Bank annually provides projections of fertility in each country. This paper reviews and updates the procedures for making fertility projections.

Bos and Bulatao classify countries as pre-transitional, transitional, and post-transitional on the basis of current fertility and recent trends — and examine trends separately for each group of countries. A basic assumption underlying the analysis is that fertility will fall in all countries from high levels during the pre-transitional stage, to declining levels during the transition, and to low levels during the post-transitional stage. The start of this fertility transition process is identified in the analysis by a decline in the total fertility rate of at least 0.5 points over five years.

Focusing on the transition stage, Bos and Bulatao analyze trends for countries or economies that experienced at least part of the fertility transition after 1955. They use three data sets: World Bank estimates of fertility in the latest quinquennium; survey, census, and registration-based fertility estimates; and World Bank estimates corresponding to the two decades immediately following initial transition. The three data sets produce somewhat different estimates of the rate of decline. The average rate of total fertility decline across all the data, 0.12 annually, is subsequently used as the medium decline pattern. Slow and rapid fertility decline are defined as half and twice the medium decline rate.

Regression analysis is used to estimate the relationship between the current rate of decline in fertility and a number of socioeconomic variables. Differences in the rate of fertility change during the transition are partly explained by socioeconomic indicators, but the addition of the previous rate of change as a predictor improves the model significantly. Models with just the previous rate of change fit almost as well as those including the socioeconomic indicators.

Focusing on the pre- and post-transitional stages, the authors carry out additional analyses of fertility patterns. Pre-transitional fertility trends show little pattern. The start of the transition cannot be reliably predicted but appears, from previous analyses, to be subject to a mortality threshold. Post-transitional fertility trends also show little pattern. The shift from transitional decline to the post-transitional stage involves slower fertility decline, and alternative patterns of slowing are distinguished.

The results of the analysis are translated into rules for projecting future fertility rates. These rules allow future fertility trends to be defined from previous trends country by country — and incorporate changes in total fertility with projected reductions in high levels of primary sterility. To allow long-run projections, the rules assume that all countries eventually converge to replacement fertility.

The results of applying the rules are illustrated for eight countries and compared with previous World Bank projections and projections of the United Nations Population Division.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a continuing effort in PRE to produce sensible and fully documented population projections. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (28 pages, with figures and tables).

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501. Tax Systems in the Reforming Socialist Economies of Europe

Cheryl W. Gray

As socialist countries move toward market systems, tax policy is an important part of the reform agenda.

This paper lays out some of the broad trends and issues now emerging as socialist economies attempt to reform their systems of taxation. Particular attention is paid to Hungary and Poland, the most advanced in the reform process, but short discussions of Czechoslovakia, Yugoslavia, and the U.S.S.R. are also included.

Although the fiscal system of every socialist country has its unique characteristics, there appears to be a distinct series of stages through which these systems have passed or will pass on the road from full central planning to a largely free market economy. The first stage, *classical socialism,* prevailed in the first two to three decades after World War II and was characterized by central control of many economic variables—including input and output mix, pricing, and income distribution. Tax systems tended to be very rudimentary tools to capture economic surplus and transfer revenues to the state. Taxes consisted primarily of a mixture of turnover taxes and taxes on factors of production. They were paid almost exclusively by firms in the socialized sector.

The second stage, *reform socialism,* began in the 1960s and early 1970s in many socialist economies and remains until today in some. It has typically coincided with expanded decentralization of economic decisionmaking and greater autonomy for enterprise managers—and been characterized by the emergence of a fledgling independent role for the tax system in directing economic activity. In this stage the traditional sources of revenues — the turnover, company profits, and payroll taxes — remain the most important taxes, but they become more fine-tuned. They are often joined by new and unique taxes that attempt to mimic market forces, such as a levy on fixed assets, an excess wage tax, and a tax to extract rents from CMEA trade. The incentive effects of taxes in this stage tend to be muted by the very ad hoc, discretionary, individually negotiated nature of tax liabilities.

Several countries of Eastern Europe are now moving into the third stage, *post-socialist transition.* The tax changes needed to adapt to a market economy are fundamental and systemic. But three sets of problems — related to macroeconomic concerns, enterprise ownership and structure, and institutional weakness — impose constraints on the design of tax policy during the transition. Maintaining revenues to insure budget balance is crucial for macroeconomic stabilization. However, institutional weakness combined with the demands of rapid privatization threaten to erode the traditional revenue base (based as it has been on high rate and often ad hoc and discretionary taxes that are incompatible with private sector development). These constraints are well-illustrated in the current fiscal situation in Hungary and Poland, and they are likely to arise in other countries — including Czechoslovakia, Yugoslavia, and the U.S.S.R. — as they move toward fundamental fiscal reform.

This paper — a product of the Socialist Economies Division, Country Economics Department — is part of a larger effort in PRE to study the process of transition in reforming socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lois Lockyear, room N6-040, extension 36969 (29 pages).

502. Patents and Pharmaceutical Drugs: Understanding the Pressures on Developing Countries

Julio Nogués

Lengthen effective patent protection in industrial countries and press developing countries to introduce patent protection. These two tactics have become important parts of the R&D-intensive pharmaceutical industry's strategy to regain losses in market share associated with more stringent drug safety regulations and increased competition from generic drug companies.

For legal and economic reasons, patents allow drug-inventive companies to appropriate the returns from their innovations. Patents sustain high monopoly prices that provide rents to undertake further R&D and allow the invention of new drugs.

Much of the developing world — with very poor innovative capabilities — provide weak or no patent protection for pharmaceutical drugs. Moreover, some countries have not signed international patent agreements, and they provide no enforcement or dispute settlement mechanisms. To confront this situation, industrial countries have resorted to bilateral and multilateral pressures. For example, industrial country negotiators at the Uruguay Round (especially Japan, the EC, and the United States) have proposed that patents be offered in all fields (including pharmaceuticals), that they last 20 years from date of application, that compulsory licenses be applied only in extraordinary circumstances, and that a strong dispute settlement mechanism be established. By historical standards, these homogeneous proposals are unique. In general, developing countries have opposed these reforms. Some of them, such as Brazil and India, have done so explicitly.

Nogués indicates that the R&D-intensive pharmaceutical industry is one of few for which patents are a major instrument for protecting the returns from innovations. In this industry, investment in R&D is comparatively high, and drugs are easily copied. Under these circumstances, the legal protection of patents is of crucial importance in determining the market performance of the R&D-intensive pharmaceutical industry.

Stringent regulations introduced in the 1960s — to protect consumers from risky drugs — increased the costs of R&D in the U.S. pharmaceutical industry and reduced effective patent life (because the time needed on testing for complying with drug safety regulations has increased quite significantly). This reduces the profits per dollar invested in R&D. Also during the 1980s, several institutional changes seeking to reduce medical costs facilitated competition from generic drugs and squeezed the sales of the R&D-intensive industry. Finally, the potential market for patented drugs in developing countries is no longer trivial.

So this powerful industry is lobbying strongly for longer patent protection domestically and stronger protection in developing countries.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the economic impact of intellectual property rights. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Teresa Sanchez, room S8-040, extension 33731 (41 pages).

503. Household Production, Time Allocation, and Welfare in Peru

John Dagsvik and Rolf Aaberge

Simulation exercises suggest that it is difficult to reduce inequalities in per capita consumption by changing wage and education policies.

Dagsvik and Aaberge use data from the Peruvian Living Standard Survey (PLSS) to analyze (1) inequality in the distribution of income, (2) men and women's participation in the labor market and variations in their work hours, and (3) the relationship between variations in the labor supply and income inequality.

Their purpose: to study the effect of changes in education and wage rates on production, consumption, and allocation of time. For example, how many men and women would participate in wage work if education were increased? How would policy changes affect the mean level and degree of inequality in the distribution of economic welfare?

They conclude:

Entrepreneurial income is the most important source of income in rural and other urban areas. Male wage earnings contribute almost 40 percent of the household's consumption, which seems to reflect their share of total household hours of work. Women's earnings contribute about 17 percent of consumption.

But consumption and welfare are considerably less equally distributed than hours of work.

Proportional wage changes have only a small effect on behavior. Remarkably, wage increases also have little effect on the unequal distribution of per capita consumption. Even when wage rates are increased by the same amount the indirect effect is small — but the increase does moderately reduce the inequality in distribution of per capita consumption.

Dagsvik and Aaberge use a decomposing method to analyze income inequality. They use a structural neoclassical model to analyze household production, consumption, welfare, and allocation of time. They use per capita (or per adult equivalent) household income or consumption as an indicator of welfare. This paper — a product of the Women in Development Division, Population and Human Resources Department — is part of a larger effort in PRE to determine if and how women's productivity (and thus family welfare) are improved when women are given more access to education, extension, training, credit, health care, and other public resources. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Abundo, room S9-125, extension 36820 (46 pages with figures and tables).

504. Applying Tax Policy Models in Country Economic Work: Bangladesh, China, and India

Henrik Dahl and Pradeep Mitra

Applications of general equilibrium models to different problems arising in tax policy — such as identifying desirable tax bases in Bangladesh, analyzing price controls in China, and coordinating tax-cum-tariff reform in India — show how useful they can be in supplementing more qualitative judgments. But they are useful only if substantial effort is devoted to establishing a consistent data set and to choosing the structure of the model in a way that makes its behavior consistent with what good economic analysis would suggest.

While general principles can guide the design of the overall contours of a tax reform package, models for tax policy analysis can complement analysts' judgments in important and replicable ways. Dahl and Mitra show their usefulness with three examples.

They use a tax policy model for Bangladesh to show how one can analyze the revenue and incidence effects of a tax reform proposal of the kind that arises in country economic work. For each sector of the economy, the model is asked: how much must an ad valorem excise tax be raised in that sector to generate an additional one percent of *total* indirect tax revenue? The results show how the burden of tax increases in each sector is distributed across different rural and urban socioeconomic groups and how it affects such variables as the consumer price index and the trade deficit. Since each sector is asked to contribute the same amount of revenue, the results can be compared across sectors to show which of them are better candidates for increased taxation in an overall reform package.

The revenue and incidence effects are then combined in a single measure that allows one to rank the sectors by the efficiency-cum-equity cost of raising revenue. Those rankings are used to compare traditional with general-equilibrium-based approaches to incidence analysis, a comparison that underlines the importance of assumptions about the labor market and about substitutability in production in formulating tax policy proposals.

In their second example, Dahl and Mitra use a tax policy model based on data from China to examine the desirability of recommending broad uniformity of tax rates among sectors. Such uniformity may yield acceptable outcomes in market-based economies, but the model shows that losses from uniform taxation can be very significant in a decentralizing socialist economy — where some production is centrally planned and subject to price controls and some is subject to decentralized decision-making and transacted at market prices.

Their third example, drawn from an ongoing study in India, shows how two models — one sectorally disaggregated but macroeconomically simple, the other macroeconomically richer but sectorally aggregated — can be implemented on a common data base to help study the coordinated reform of tariffs and indirect taxes. The combined models can be used to calculate how much indirect taxes must be increased, after a reduction in tariffs undertaken to promote an outward-oriented development strategy, to produce enough revenue for the government to meet its expenditures without changing the current account deficit.

Finally, Dahl and Mitra discuss the costs of constructing general equilibrium models for tax policy analysis — and implications for data requirements and judgments about modeling strategy. The most effort must be devoted to (1) establishing a consistent data set and (2) calibrating the model in a way that allows its behavior to be consistent with what good economic analysis would lead one to expect. These costs must be set against the benefits of the modeling approach to tax policy analysis in developing countries.

This paper — a product of the Public Economics Division, Country Economics

Department — is part of a larger effort in PRE to develop techniques to help policymakers in developing countries identify the implications of different tax reform packages for revenue, efficiency, and equity. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (46 pages, including tables).

505. Creating the Reform-Resistant Dependent Economy: The CMEA International Trading Relationship

Arye L. Hillman and Adi Schnytzer

How the CMEA system of international trade affected enterprise incentives and inhibited market-oriented domestic reform in the Eastern European socialist economies.

In analyzing the framework for international trade of the Eastern European socialist economies — the Council of Mutual Economic Assistance (CMEA) — Hillman and Schnytzer depart from the traditional focus on distortions in socialist international trade.

Instead they analyze the CMEA trading relationship using the standard concepts of (1) specialization in accord with comparative advantage, and (2) the incentives to resist trade liberalization (or any change) because of rents accruing to industry-specific factors of production (including job security that sustains hidden unemployment).

Hillman and Schnytzer describe how CMEA trade was negotiated, and demonstrate that the CMEA system of trade sustained a dependency relationship between the Eastern European economies and the Soviet Union that inhibited market-oriented liberalization and adjustment.

They focus particularly on Poland and Hungary, wherein during the 1970s and 1980s governments sought to introduce market-oriented reform. The Polish government designed several programs to "rationalize" domestic economic activity and in the early 1970s made a concerted effort to upgrade Polish industry using imported western technology and capital. But the Polish economy did not depart much from the centrally planned socialist system and remained firmly embedded in the CMEA.

In principle, central planning ended in Hungary in 1968, and the system of "market socialism" was introduced to encourage a decentralized domestic market economy and a western orientation in international trade. When the socialist political monopoly ended in 1990, however, "market socialism" had yielded neither a western-oriented nor a western-type market economic system.

CMEA trade was intimately linked to the failure of reform to take hold in Poland, to the lack of progress under Hungarian market socialism, and to the other Eastern European economies' lack of interest in western-oriented reform. Once the dependence relation was established, the costs of disengaging from the CMEA were high, as Albania exemplified.

Eastern European economies benefited in the 1980s from preferential terms of trade that provided an implicit subsidy from the Soviet Union. But the Soviet Union also provided "hard" goods potentially saleable for hard currency (oil, natural gas, and raw materials) and took in exchange "soft" goods (machinery, equipment, etc.) that were not of sufficient quality to be marketable in the west (if at all) at prices that would recover costs. This trading pattern made the capital of the Eastern European enterprise *transaction-specific*: the capital could produce goods that were acceptable, *specifically*, for CMEA *transactions* only. The consequence was the very dependence and potential for opportunism in CMEA trade that in the West is avoided by internalizing transactions within the firm. Reflecting the prior dependence relationship and enterprise incentives to resist western orientation, the abolition of the CMEA trading system and the transition to world prices will impose a substantial terms-of-trade loss on the Eastern European economies, and the integration of CMEA and western markets will undermine the value of domestic CMEA transaction-specific capital stock of the enterprises.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to investigate how the legacy of the past institutional arrangements in the Eastern European economies affects restructuring and liberalization opportunities. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE staff, extension 37176 (28 pages with tables).

506. Changes in Food Consumption Patterns in the Republic of Korea

Merlinda D. Ingco

Diets have been changing rapidly in the Republic of Korea, where fast income growth and urbanization favor the consumption of beef, pork, chicken, and wheat flour and discourage the consumption of rice, barley, and fish. The result could be rice surpluses and higher beef prices.

Urbanization and income growth explain the increasing consumption of beef, pork, chicken, and wheat flour, and the proportionate decline in the consumption of rice, barley, and fish.

Continuing urbanization and income growth should simply reinforce these trends. The same phenomenon is occurring in other rapidly growing Asian countries with similar dietary profiles.

The implications for estimating demand are important.

First, there is a declining trend in the income elasticity of rice, which became negative in the 1980s. So, rice surpluses will grow if production growth rates are not reduced.

Income elasticities of demand for beef are relatively high, so expected increases in real income will continue to put upward pressure on beef prices, unless beef import quotas are expanded more rapidly or eliminated.

Second, the relatively high own-price elasticities for meats — particularly beef and pork — imply that reduced protection for Korean meat producers would significantly increase per capita meat consumption.

This paper — a product of the International Commodity Markets Division, International Economics Department — is part of a larger effort in PRE to understand the changes in food markets in developing countries, especially in those countries experiencing rapid income growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Aban Daruwala, room S7-042, extension 33713 (47 pages with figures and tables).

507. Poverty in Poland, Hungary, and Yugoslavia in the Years of Crisis, 1978-87

Branko Milanovic

The deep economic crisis in Eastern Europe in the 1980s substantially increased the number of people living below the poverty line. Before the crisis, most of the poor lived in rural areas. Now most of the poor (as many as 70 percent in Poland) live in cities.

The deep economic crisis in Eastern Europe between 1978 and 1987 greatly affected average incomes and increased the proportion of people living below the poverty line.

The situation deteriorated most sharply in Poland, where declining incomes caused the percentage of poor people to increase from less than 10 percent of the population (before the crisis) to more than 20 percent. In Yugoslavia the proportion of poor people increased from 17 percent to 25 percent. In Hungary poverty remained at about the same level as before the crisis (less than 15 percent).

The distribution of poverty changed in all three countries. Urban poverty became dominant, as the economic condition of state sector workers — manual and nonmanual — deteriorated much more than that of agricultural and mixed (rural-urban) households. Before the crisis, most of the poor lived in rural areas. Now most of the poor (as many as 70 percent in Poland) live in cities.

Increases in poverty are explained entirely by declining incomes; overall, income distribution did not change and in some cases even "improved." But when such redistribution did occur, it was insufficient to offset the impact of declining incomes.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department, and the first such Bank study done for Eastern Europe — was prepared as a background paper for the World Development Report on poverty. It is part of a larger PRE effort to understand the factors that contribute to poverty. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Angelica Bretana, room N6-025, extension 37176 (30 pages with tables).

508. A RMSM-X Model for Chile

Luis Serven

A simple macroeconomic model is applied to macroeconomic data for Chile.

The RMSM-X model for Chile is one of a sequence of models that also includes, in increasing order of complexity, the RMSM-XX and MACOR models. The three models share the same budget accounts for an economy disaggregated into several sectors — such as private, public, financial, and foreign — and organized in a flow-of-funds framework.

The models differ in their representation of economic behavior. RMSM-X combines a simple behavioral structure with the basic accounting framework and can be solved recursively to obtain macroeconomically consistent projections for a set of endogenous variables. RMSM-XX will more completely specify the links among economic variables and will require a simultaneous solution procedure. MACOR will be a standard medium-size macroecono- metric model that will introduce a more sophisticated behavioral structure into the basic accounting framework.

The model presented in this paper is solved recursively but incorporates some simple behavioral rules to determine private consumption, money demand, imports, and exports.

Serven describes two possible solution procedures (or closure rules) for the model, which allow it to address two types of policy questions.

The first, the "normative" closure, can be used to investigate what macroeconomic policies (fiscal, monetary, or exchange rate policy) would be required to achieve given targets in terms of growth, inflation, and the like.

The second, the "positive" closure, can be used to examine the effects of a given set of economic policies (including fiscal, monetary, and exchange rate policies) on growth, inflation, and the like. Other closure rules can be implemented but are not described in detail in this paper.

The macroeconomic model for Chile described in this paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a series of models for analyzing macroeconomic policy options that are being developed in collaboration with Country Operations divisions. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (105 pages including tables).

509. The Childbearing Family in Sub-Saharan Africa: Structure, Fertility, and the Future

Odile Frank

Sub-Saharan Africa has not joined the global demographic transition. Africa's eventual transition to fertility decline may depend more than it has elsewhere on functional changes in the family and changes in the family structure.

Sub-Saharan Africa is lagging behind the rest of the world in what otherwise seems to be a global — encompassing even the giant, China — demographic transition to fertility decline.

Representing as it does only 9 percent of the world population, one might ignore Africa's departure from the norm, assuming it would inevitably catch up with the other countries. But it is not so clear that fertility decline will occur in Africa, where the structures underlying demographic behavior are different from structures not only in the developed world but in other developing countries as well.

As wives and mothers, African women seem to be more economically independent and autonomous in their households than in any other region — yet in terms of family structure and status they are as dependent as women are anywhere else. So, houses headed by women in Africa are not as handicapped economically as in other regions.

At the same time, since the wife and mother bears the economics of childbearing rather than the husband and father, Africa's eventual transition to fertility decline may depend on functional changes in the family and changes in family structure more than demographic change elsewhere has.

Drawing on literature about Africa and household data on Côte d'Ivoire, Frank describes the structure and characteristics of the childbearing family in Africa;

their implications for fertility, fertility regulation, and demographic trends; and their relevance to Africa's future.

Typically, for example, the African childbearing family is segmented, consisting of a husband and father who is head of the household but not necessarily a breadwinner, and an economically autonomous wife and mother. Each parent is more strongly affiliated by lineage than by marriage bond, so there is a cleavage in the "nucleus" of the family — and norms for breadwinning and childbearing are separately reinforced and not necessarily considered relevant to each other.

Women have the primary responsibility for sustaining their families, which they do primarily through subsistence farming — yet African women rarely own land. Men own the land and their children are granted use rights. A woman is granted land use rights so she can provide for the family of her husband. This guarantees the husband's rights not only to the wife's children but to many years of her labor — which may continue even when the husband takes other wives — so although the initial cost to the husband of commanding a brideprice is high, childbearing becomes virtually costfree to him. One outcome of this economic arrangement is that incomes and budgets are not pooled in the childbearing family unit.

The economic independence of women often makes then de facto heads of household, a situation that is reinforced by the migration of males to cities for wage labor. Data in this area reveal that the proportion of women participating in the labor force (especially agriculture) increases rather than decreases with age; headship of household is often attributed to men, possibly on the grounds of their social status and presence; women who are heads of household are not particularly at a disadvantage; and women have more access to land when they live in a man's household.

Frank analyzes the present types of family structure and divisions of responsibility and forecasts four scenarios, what she calls the feminist, impoverishment, Americas, and Caldwellian scenarios.

She also discusses the importance of gender roles and fertility-regulating behavior in Sub-Saharan Africa — particularly the importance in the African family structure of child fostering.

Finally, she addresses the methodological difficulties of conducting research on family structure and fertility if Africa, and outlines an agenda for research.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to understand fertility and family formation issues as they relate to the living conditions of households in the developing world. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (54 pages).

510. Public Expenditure Reviews for Education: The Bank's Experience

Antoine Schwartz and Gail Stevenson

Bank experience with — and ways to improve — the analysis of education issues in public expenditure reviews (PERs).

The Bank's increased focus on policy-based lending lies behind the Bank's shift from traditional public investment reviews (PIRs, to identify sector or investment priorities) and toward public expenditure reviews (PERs), which include recurrent expenditures. The shift to PERs has increased attention to the cost and financing of education, which is overwhelmingly financed from the public sector's recurrent budget.

According to Schwartz and Stevenson:

- Cost and financing analysis (and format) in PERs should be more standardized so conclusions needn't be based on ad hoc international comparisons, and so the conclusions are more credible. Reports should focus more on the sustainability of proposed, as well as achieved, reforms, and on the political and institutional (as well as economic) impediments to sustainability. Few reports acknowledge that more efficient educational processes usually require investments in quality improvements, the added costs for which initially outweigh the resulting savings. And it should be made clear whether savings from efficiency measures are to remain within the subsector or be reallocated elsewhere.
- PERs should include all sources of financing — public and private, local and central government — in the assessment of the adequacy of sector funding.
- PERs should address the imbalance between (1) recurrent and capital spending and (2) personnel and nonpersonnel spending.
- PERs should follow up sectoral diagnosis with concrete policy options, focusing not only on intrasectoral but also on intersectoral reallocation of resources. Many PERs — particularly for resource-rich countries that spend a lot on education — fail to provide concrete options, perhaps feeling less need than resource-poor countries to improve the efficiency and equity of resource use.
- PERs are no substitute for country and economic sector work. If data are inadequate, more sector work is needed for PERs to link macroeconomic and sectoral issues. Single-sector or possibly social sector PERs are more appropriate for in-depth analysis of cost and financing issues.
- Extensive detail is no substitute for focused analysis of education issues and priorities in relation to the country's overall development program.
- PERs should be attentive to the different time frames needed to attain macroeconomic and educational goals; the often substantial education funds outside the control of the Ministry of Education; the imbalance between, and low ratio of, capital to recurrent education spending; the low ratio of nonwage to wage expenditures in the sector's recurrent budget; and the large, capital-intensive foreign financing component of sector funding in many (especially low-income) countries, often fragmented among donors and projects.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to understand the education sector in the broader context of Bank operations, particularly adjustment programs, which form the background for public expenditure reviews (PERs) in two-thirds of the countries reviewed. It is the first step in a research agenda that includes analysis of how adjustment-related operations affect the education sector, how the education sector should be treated in PERs in the context of adjustment, and how cost and financing issues should be treated in the context of the macroeconomy. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-035, extension 33640 (81 pages with figures and tables).

511. The Macroeconomic Underpinnings of Adjustment Lending

Fred Jaspersen and Karim Shariff

Macroeconomic policy and sequencing issues increasingly have been addressed explicitly in the design of recent adjustment loans, but there still is scope for: (1) strengthening the analytical framework and macroeconomic policy conditionality in adjustment loans, and (2) greater realism about the time and external resources needed to achieve adjustment and growth objectives.

Drawing on conditionality and implementation information for 184 World Bank adjustment loans to 62 countries during the 1980s, Jaspersen and Shariff examine the macroeconomic underpinnings of Bank-supported adjustment programs. They conclude that macroeconomic policy reform and improved macroeconomic performance are critical to successful implementation and sustainability of structural reform.

Reducing macroeconomic imbalances is especially important for trade reform. If inflation is not reduced to a manageable level, there is a danger that the exchange rate will be used as a nominal anchor for domestic prices. If sustained over a long period, this may precipitate a balance of payments crisis and make it impossible to liberalize trade.

Reducing macroeconomic imbalances also has an important bearing on implementation of sectoral reforms. To the extent that the government cannot reduce its fiscal deficit by increasing its own savings, there is a greater likelihood that it will cut investment in infrastructure to support sectoral restructuring. Prolonged high real rates of interest that result from unsuccessful stabilization efforts can hurt private investment and the restructuring of sectoral production. If fiscal imbalances have not been eliminated before liberalizing the financial system, it is likely that the government will continue to rely on administrative controls to finance the public sector deficit, undermining financial sector reform.

Analysis of the Bank's adjustment loans indicates that macroeconomic conditionality has been relatively important — and has increased over time. Fiscal policy, including public expenditure reform, has been an important focus of the Bank's adjustment lending. Relatively less emphasis has been given to monetary and exchange rate policies which have been a central focus of IMF programs. Implementation of supply-side sectoral policies has been strongly affected by macroeconomic performance. Where macro balance has not been reestablished, implementation rates have been lower for all conditions. Where progress in eliminating imbalance is taking place, reform inertia has strengthened even after loan disbursement has been completed.

Loan design has also been an important determinant of implementation and sustainability of reform. Where issues of sequencing have been built into the design of adjustment programs, the implementation of sectoral reform has been stronger. Adjustment loan conditions which are precisely defined and legally binding for tranche release have had the highest rates of implementation. For adjustment loans with a large number of conditions, implementation has been highest for the "core" conditions that have been the most critical for success of the program.

After looking at recent experience with macroeconomic conditionality, the authors conclude that macroeconomic policy and sequencing issues increasingly have been addressed explicitly in the design of recent adjustment loans, but there still is scope for: (1) strengthening the analytical framework and macroeconomic policy conditionality in adjustment loans, and (2) greater realism about the time and external resources needed to achieve adjustment and growth objectives.

This paper is a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department. It was prepared as part of a larger effort in PRE to assess the World Bank's experience with adjustment lending and was a background paper for the Bank's Report on *Adjustment Lending II: Policies for the Recovery of Growth,* submitted to the Bank's Board on March 6, 1990. The paper deals with the theoretical macroeconomic underpinning of adjustment programs and presents the results of empirical work on the design and implementation of Bank-supported adjustment loans. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Aludia Oropesa, room N11-019, extension 39075 (41 pages with tables).

512. Social Security Reform: The Capital Accumulation and Intergenerational Distribution Effect

Patricio Arrau

Substituting the pay-as-you-go social security system by a fully funded individual-accounts system may generate long-run capital accumulation, but often at the cost of income redistribution away from the elderly. Different deficit-financing schemes are studied having this issue in mind.

Using the Auerbach-Kotlikoff model, Arrau studies a switch from an unfunded, defined-benefit (pay-as-you-go) social security system to a fully funded individual-accounts system.

Important questions arise about the transition period. Contributions to the old system by currently active workers disappear as pensions, so the government must assign a value to those past contributions and finance their deposit into the new accounts.

It must also finance the transitional social security deficit from the old system. That deficit arises because the government must pay pensions to current retirees without collecting the social security tax that now goes to individual savings accounts.

Arrau quantifies the impact of social security reform on capital accumulation and intergenerational distribution using a model calibrated for Mexico. There seems to be confusion about the effect of the reform on capital accumulation and a complete neglect of the effect on intergenerational distribution.

Arrau also explores the implications of tax incentives for pension funds. He studies the effects of two alternatives: (1) if the social security contribution is deductible from income tax and pensions are taxable, and (2) if contributions are not deductible and pensions are exempt.

Option 1 provides a higher taxable base than option 2 and a flatter path of income tax during the period of transition — which is important if one wants to prevent substitution of future consumption by present consumption. Option 2 provides revenue earlier than option 1. The simulations, however, seem to favor option 1.

This paper — a product of the Country Operations Division, Country Department II, Latin America and the Caribbean Regional Office — analyzes important policy issues using new approaches. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (53 pages with figures and tables).

513. The Business Cycle Associated with Exchange-Rate-Based Stabilization

Miguel A. Kiguel and Nissan Liviatan

Disinflation programs in chronic inflation countries do not normally follow the usual Phillips curve tradeoff in the medium run. Instead of having a sharp recession in the early stage of stabilization, there often is an initial expansion of output followed by a recession and balance of payments difficulties. This pattern is related to programs that use the exchange rate as an instrument of disinflation.

Kiguel and Liviatan studied the effects of disinflation on economic activity in "chronic inflation" countries based on a sample that includes major Latin American countries and Israel.

Their purpose was to document the main features of the business-cycle phenomenon in countries following an exchange-rate-based stabilization program, to understand its causes, and to analyze their policy implications for future stabilization of this type.

Their main finding was that stabilization processes in chronic inflation countries — most of which use the exchange rate as the main nominal anchor — do not normally follow the usual Phillips curve tradeoff in the medium run.

Exchange-rate-based stabilization programs in these countries are often associated with a business cycle that begins with a boom and ends with recession. (Stabilization programs that use the money-supply anchor tend to follow the usual Phillips curve relationship.) These programs are associated with real appreciation, an increase in real wages, and a tendency to generate a balance of payment crisis. Most of these features appear not only in failed stabilization processes but also in those which turned out to be eventually successful, as in Chile or Israel.

The authors relate the foregoing phenomena to recent theoretical modeling of stabilization which are perceived, rightly or wrongly, as temporary. This brings in the issue of credibility in the stabilization process. The paper concludes with a discussion of the pros and cons of the exchange-rate-based stabilization and of the desirability of switching nominal anchors in the course of stabilization.

This paper — a product of the Macroeconomic and Growth Division, Country Economics Department — is part of a larger effort in PRE to examine stabilization policies. It was funded by the research project "Stopping High Inflation" (RPO 674-24). Please contact Emily Khine, room N11-061, extension 39361 (54 pages, including figures and tables).

514. Restrictive Labor Practices in Seaports

Alan S. Harding

Restrictive practices may prevent developing country seaports from benefiting from investments in containerization and bulk handling. Port loan appraisals should assess the changes needed in labor arrangements and organization — and estimate compensation payments needed for displaced workers.

Containerization and modern bulk handling methods can substantially increase ship and labor productivity. Early debate about whether these methods are appropriate for developing countries has largely ended. At least on routes for which one or more partners is a developed country, costs are minimized by modern, productive ships and appropriate port technology.

But, Harding argues, many ports have failed to change their labor practices and to accept the inevitable reduction in their labor force that technological advances call for. Those ports are doubly penalized: by incurring investment costs and continuing to pay labor as if earlier labor-intensive methods still applied.

Harding analyzes productivity-limiting or high-cost practices known generically as "restrictive practices," especially the following: limits on entry to work in the port, an exclusive definition of dock work, job demarcation to prevent interchanging labor, work-sharing requirements within groups that prevent specialization, work-extending practices, restrictive work hours, and restrictions on output.

Harding analyzes how restrictive practices increase shipping costs — by increasing ship turnaround time and direct labor costs and by reducing labor productivity. He also analyzes how employment would be affected if these practices were abolished — or what these practices are worth in terms of compensation payments to displaced workers.

He gives examples of three approaches to abolishing restrictive practices — gradual, reformist, and drastic. He emphasizes that major changes in restrictive practices are normally associated with changes in a port's cargo-handling organization — by privatization or concession, for example.

The Bank, concludes Harding, must enter the difficult area of labor organization if Bank-funded investments and trade-related projects are to succeed. At appraisal, the Bank should analyze the extent to which changes in labor arrangements may be needed to realize project benefits, and should examine labor organization, collective agreements and other labor arrangements, legal implications, and the investment's impact on the work force.

The cost of compensation payments should be included in the economic and financial evaluation of a project. Efforts involving labor must be seen in the context of a move toward greater private sector participation in port operations. And where privatization is an issue, it is essential to analyze what associated changes in labor organization are implied and what opportunities these might offer to improve working practices.

This paper — a product of the Transport Division, Infrastructure and Urban Development Department in conjunction with the Infrastructure and Energy Division, Technical Department, Latin America and the Caribbean Regional Office — is part of a Bank-sponsored research project, "Labor Redundancy in the Transportation Sector." Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ann Joseph, room S10-029, extension 33743 (42 pages).

515. Stock Markets in Developing Countries: Key Issues and A Research Agenda

Mansoor Dailami and Michael Atkin

With foreign capital funds dwindling, governments in many developing countries — with increased Bank support — are looking to develop capital markets to provide risk capital for the corporate sector. But first, some basic issues must be empirically explored.

The International Finance Corporation (IFC) is heavily involved in developing capital markets in developing countries — through technical assistance, through direct investments (equity and loans) in financial market institutions, and through its activities (with the Emerging Markets Database and various country funds) to stimulate portfolio investment in stock markets in developing countries.

The Bank's increased concern with capital market issues is recent. This concern reflects growing dissatisfaction with the paradigm of bank-based finance with heavy government intervention — and awareness of the need for a more integrated approach to financial sector development, resource mobilization, and the promotion of investment and economic growth.

Several financial sector loans have included policy recommendations supporting capital market development, a trend that should accelerate as Bank staff gain competence handling the complex issues involved. To the extent that problems in the banking sector originate in unbalanced capital structures at the corporate level and failure to develop equity markets, capital market development clearly is essential to banking reform. The complementarity of the banking sector and securities markets needs exploration.

There is much debate — in both developed and developing countries — about what kinds of financial institutions and markets best serve economic growth. To what extent, one might ask, can the superior performance of Japanese and German economies be attributed to their market-based system (with a focus on short-term gains)? Prominent in current debates about the competitiveness of industrial nations are issues of corporate financial structure and financial market organization.

Drawing on recent experiences in India and Korea, Dailami and Atkin consider key issues that arise in connection with the development of equity markets in developing countries. Under what conditions does it make sense to encourage the development of equity markets? Is a functioning equity market a prerequisite for liberalization of the banking system? Is it useful to think in terms of an optimal debt/equity mix for a developing economy, or for a corporation in a developing economy?

What is the appropriate regulatory regime for a developing country securities market? Without effective regulation, international investors will not have the confidence to commit resources to developing country markets.

Good management skills are scarce in developing countries. How can matters be arranged to make optimal use of those management resources? The stock market's role in effecting changes in corporate governance could be enormously helpful to economic development.

This paper — a joint product of the World Bank's Financial Policy and Systems Division, Country Economics Department and the Economics Department of the International Finance Corporation — is the first in a planned series of research on the performance of capital markets and their role in providing risk capital to the corporate sector in developing countries, funded by the Bank's Research Committee (RPO 675-84). Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Maria Raggambi, room N9-041, extension 37657 (49 pages).

516. International Capital Mobility and the Costs of U.S. Import Restraints

Jaime de Melo and David Roland-Holst

Model estimates indicate the practical importance of capital mobility — and terms-of-trade and rental adjustments — in determining the ultimate welfare effects of import restraints.

De Melo and Roland-Holst evaluate the general-equilibrium welfare effects of tariffs, quotas, and voluntary export restraints under different assumptions about international capital mobility.

They show analytically that when the induced effects of terms of trade and rental rates are considered, the qualitative influence of capital mobility on the costs of protection cannot be ascertained unambiguously. (Thus the importance of answering this question empirically.)

They use a computable general equilibrium model of the United States to estimate these effects empirically. These estimates indicate the practical importance of capital mobility — and of terms-of-trade and rental adjustments — in determining the ultimate welfare effects of import restraints.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the effects of trade policy on industrial efficiency. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (24 pages).

517. Do Wage Distortions Justify Protection in the U.S. Auto and Steel Industries?

Jaime de Melo and David Tarr

No. Wage premiums in those industries may even exacerbate the welfare costs of protection.

De Melo and Tarr examine the welfare effects of protection in two high-wage sectors — autos and steel — to determine if protection is justified to correct for the misallocation of labor necessitated by wage distortions.

If wage premiums are exogenous, under most product market structures labor misallocation is too small to justify protection.

But de Melo and Tarr argue that because of union influence, the wage premium is endogenous in the auto and steel industry — so wage premiums may even exacerbate the welfare costs of protection.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger PRE research effort to understand the effects of trade policy on industrial efficiency. Copies of the paper (or of an appendix describing the model) are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (32 pages).

518. Industrial Organization and Trade Liberalization: Evidence from Korea

Jaime de Melo and David Roland-Holst

The welfare gains Korea would realize from abolishing the tariffs and equivalent import restraints prevailing in 1982 are likely to be substantial.

Drawing on evidence about industrial organization and market structure, de Melo and Roland-Holst develop a computable general equilibrium model in selected industrial sectors with increasing returns to scale.

They use this model to estimate the welfare gains Korea would realize from abolishing the import restraints (tariffs and equivalent measures) prevailing in 1982.

Under constant returns to scale, they estimate welfare gains to be 1 percent of GDP.

With increasing returns to scale in three industrial sectors, they estimate welfare gains ranging from -0.5 percent to 10 percent of 1982 GDP, depending on assumptions about the pricing behavior (markup pricing or Cournot competition) and profit levels that existed under protection.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the effect of trade policy on industrial efficiency. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (31 pages with figures and tables).

519. Taxes, Outward Orientation, and Growth Performance in Korea

Irene Trela and John Whalley

Tax policies have contributed relatively little to Korea's extraordinary growth: less than 10 percent of Korean growth between 1962 and 1982, and about 3 percent of export growth. Indirect tax exemptions (rebates of sales and excise taxes on exports) have contributed far more to growth than have direct measures (mainly corporate tax rebates for exporters).

Trela and Whalley use an applied general equilibrium model to investigate the contribution of outward-oriented policies to the earlier years of Korean growth.

They conclude: One should look beyond tax policy for the main factors underlying strong Korean growth. Tax policy accounts for 6.2 to 7.9 percent of Korean growth between 1962 and 1982, and only 6.7 percent between 1962 and 1972. Tax policy in Korea has accommodated high growth in Korea rather than driven it.

Indirect tax exemptions (rebates of sales and excise taxes on exports) have contributed far more to Korea's growth than have direct measures (mainly corporate tax rebates for exporters). But nontax measures (tariff rebates, interest preferences, direct cash subsidies, and export premia) have played an even greater part in Korea's development process.

High savings rates (almost 38 percent of GDP in 1988) and high investment rates have been central to Korean growth performance. So have significant transfers of labor from rural to urban sectors, especially in the early phases of growth. Export promotion policies, which stimulate manufacturing, moved labor from the low-efficiency rural sector to the high-efficiency urban sector.

During the period of Korea's extraordinary growth since the early 1960s, tax policy has been used to promote changing economic objectives in different ways.

In the outward-oriented phase of economic expansion (1961-72), rebates of direct and indirect taxes on exports were used to encourage growth.

In the second phase, when Korea was promoting the growth of heavy industry (steel and chemicals), investment tax credits, tax holidays, and other tax incentives were used to facilitate sector-specific capital accumulation.

In the most recent trade liberalization and structural adjustment phase (1980-89), the revenue-raising potential of the value-added tax has played an important part in the move toward policy neutrality.

Mean growth rates have remained high in each phase, and have seemed to be resilient in the face of frequent policy changes. In 1989, however, the growth rate fell sharply, export growth was negative, and there was talk of a new "economic crisis."

Despite these changes in tax policy, Korean growth has consistently achieved high levels since the early 1960s.

This paper — a product of the Public Economics Division, Country Economics Department — is one of a series commissioned by the Division's Tax Incentives Evaluation Project. An earlier draft of this paper was presented at a World Bank conference on Tax Policy in Developing Countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (51 pages with tables).

520. Trade Reform, Policy Uncertainty, and the Current Account

Sweder van Wijnbergen

Permanent changes in trade policy do not affect intertemporal prices and should thus leave private savings unaffected. But if trade reform will not be reversed and the government cannot credibly communicate that intent, consumers trade on the wrong assumption — so private savings are lower than they should be. This justifies policy intervention to increase private savings.

Rapid trade liberalization is often followed by a surge of imports and a deterioration in the current account. The macroeconomic counterpart of this is a decline in private savings.

The expectation that tariffs will be reimposed lowers the expected consumption rate of interest (makes current goods cheaper in terms of future goods). So anticipation of a future tariff increase will increase current consumption if the intertemporal substitution elasticity is higher than 1. If consumers internalize the impact of future tariff revenues on their after-tax income, the effect on savings will *always* be negative — even for an intertemporal substitution elasticity below 1.

What is the impact of policy uncertainty on private savings? To deal separately with the impact of shifts in intertemporal prices and with risk aversion, van Wijnbergen uses the Ordinal Certainty Equivalence approach. He establishes that trade policy uncertainty by itself will further reduce savings if (1) there is positive risk aversion and (b) the intertemporal substitution elasticity exceeds 1.

This result is interesting for two reasons. First, it shows how policy uncertainty about tariffs reinforces the negative effect on savings of an expected policy reversal exactly when intertemporal substitution elasticity is high. So the two effects go in the same direction exactly when they matter most.

Second and more academic, in the standard expected utility approach, risk aversion is low when intertemporal substitution is high, because the relevant elasticities are each other's inverse — so whenever the uncertainty effect is important, the direct anticipation effect is not, and vice versa. This result is reversed in the non-expected utility approach, as van Wijnbergen found out: the two effects are complementary where the direct anticipation is important.

These results have important policy implications. If trade reform will not be reversed but the government cannot credibly communicate that to the private sector, consumers effectively trade on the wrong intertemporal prices. So, private savings are lower than they should be. This justifies policy intervention to increase private savings, preferably through a temporary increase in consumption taxes. If this is not feasible, the second best is a temporary tariff — the equivalent to gradual rather than "cold turkey" liberalization.

The case for such intervention is strengthened by the possibility that the private savings response could create such a large current account deficit that the trade reform itself would indeed get reversed — in a self-fulfilling prophecy.

This paper is a product of the Country Operations 1 Division, Country Department II, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Margaret Stroude, room I8-159, extension 38831 (10 pages).

521. World Bank Treatment of the Social Impact of Adjustment Programs

Helena Ribe and Soniya Carvalho

Given existing knowledge and data, a better treatment of the social impact of Bank-supported adjustment programs can be achieved. Even a modest analysis of alternative policy choices can help improve program design and foster more equitable growth. Groups that may be adversely affected can be protected with targeted projects.

Since 1987 the Bank's operational guidelines have required President's Reports supporting structural adjustment loans (SALs) to pay particular attention to an analysis of the short-term impact of the adjustment program on the poor and to measures proposed to alleviate negative effects. Ribe and Carvalho review how SAL President's Reports prepared between July 1986 and December 1988 have addressed the social impact issue.

They find that most efforts to address the social impact of adjustment programs have focused on targeted projects, including special employment programs, nutrition projects, resettlement projects, and credit, severance pay, and retraining projects for displaced workers. A great deal of experience has been gained in designing and implementing targeted projects and this can help to improve their future effectiveness. By contrast, there has been little analysis of the impact of the chosen policy mix on major sub-groups in poverty. Design modifications other than reallocations of social expenditures, have received relatively less attention. For example, the composition, incidence, and effectiveness of public expenditures and their implications for reducing poverty have not generally been examined. In more recent Bank-supported adjustment programs, however, more attention is being paid to the social impact of policy decisions.

In preparing for adjustment operations, Bank staff should explore policy choices that eliminate economic distortions in a way that creates a basis for a more equitable pattern of long-term growth. To the extent that some adjustment measures may hurt the poor in the short term, this should be mitigated through both appropriate modifications in SAL design and carefully designed targeted projects. Longer-term investments in the economic and social sectors can be addressed in sector and project lending.

Given existing knowledge and data, a better treatment of social impact can be achieved, in most cases, at little additional cost and without sophisticated databases. The design and implementation of future targeted projects can be improved on the basis of the experience gained so far.

This paper — a product of the Review and Analysis Division, Policy and Review Department — is part of a larger effort in PRE to help improve the treatment of social impact issues in adjustment programs supported by the Bank. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Marilou Abiera, room S13-033, extension 31262 (58 pages with annexes).

522. A Survey of the Costs of World Sugar Policies

Brent Borrell and Ronald C. Duncan

Lifting government controls on sugar prices and production would probably increase world sugar prices. World prices would definitely be less volatile, and the end of intervention would certainly improve world welfare, especially in the sugar-exporting developing countries.

The world sugar market has long been characterized by volatile prices and widespread intervention.

Controls on domestic prices, demand, and supply have created an inefficient pattern of world production, consumption, and trade. Without government controls, production would shift from the subsidized, higher-cost countries (especially

Japan, the European Community, and the United States) to the lower-cost countries (such as Australia, Brazil, and Thailand).

The resources saved could be directed to other activities, and with lower sugar prices, consumers would have more money to spend on other goods and services.

Borrell and Duncan describe how government support of sugar producers exacerbates the volatility of sugar prices. Government-controlled increases in production have come only after price peaks (as in 1963, 1974, and 1980). The resulting surges in production far exceeded steady growth in consumption.

Production increases greatly when world prices are high but does not contract greatly when they are low. When world prices fall because of a surge in production, protective policies are activated to support the expanded industries, causing world prices to remain depressed for several years.

Because so many domestic markets are insulated, the burden of adjustment is borne by the relatively small unprotected exporting countries (such as Thailand). Moreover, to induce needed adjustments in supply and demand, the world price must vary more than is otherwise necessary.

Borrell and Duncan survey estimates of the economic costs of various forms of government assistance to sugar industries.

The impact of policies in the high-cost countries (Japan, the EC, and the United States) is to reduce world sugar prices in the long run (perhaps by more than 30%), to increase price variability by as much as 28%, and to increase the probability of very low prices. The impact of production controls in Australia and Brazil is to increase world prices and the instability of world prices.

What would happen if all interventions ceased? It cannot be concluded unambiguously that average world sugar prices would increase, but they probably would. World prices would definitely vary less, and world welfare would definitely improve, especially in developing countries that depend heavily on sugar exports.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for developing countries of changes in the industrial countries' trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Audrey Kitson-Walters, room S7-053, extension 33712 (26 pages).

523. EC Bananarama 1992

Brent Borrell and Maw-Cheng Yang

The EC countries' banana import policies are costly mechanisms for aiding preferential supplier countries. European economic integration in 1992 provides an opportunity to reform those policies and find more efficient mechanisms for providing aid.

Banana import and pricing policies vary widely among the members of the European Community. The EC Commission intends to replace national markets with a single market in 1992. At that time a uniform policy toward banana imports must be adopted.

Special import and pricing arrangements presently confer large subsidies to specific African, Caribbean, and EC territorial dependencies — to the disadvantage of other exporting (mainly Latin American) countries. A "common" banana regime and single EC market could substantially alter world trade in bananas and the welfare of banana-exporting regions.

Borrell and Yang have simulated policy options open to the EC in forming a single banana market, to illustrate the implications of change for trade and welfare. They found that:

- EC adoption of free trade in bananas would lead to a 9% increase in EC imports, a decline of 46% in exports by favored countries (equal to an annual welfare loss of US$209 million), a 12% increase in banana exports by nonfavored exporters (equal to an annual welfare increase of $60 million), and an annual increase in EC welfare of $386 million (in 1987 prices).
- Current policies (compared to free trade) cost EC consumers about $1.85 and nonfavored countries $0.29 for every dollar of "aid" received by preferential suppliers. The inefficiencies involved in this transfer cost the world economy an estimated $0.92 for each dollar of aid.
- Imposing a tariff of 16.7% on (the landed CIF value of) all EC banana imports to finance a deficiency payment scheme aimed at maintaining aid to preferential suppliers after 1992 would make aid more efficient. Every dollar of aid would cost EC consumers an estimated $1.27, nonfavored countries $0.24, and the world economy $0.34.
- But direct payment of aid would be the most efficient method for delivering aid. A tariff of 16.1% on all imports would cover the current level of aid transfer. Every dollar of aid received by preferential supplying countries would cost EC consumers an estimated $1.01, nonfavored exporters $0.03, and the world economy $0.02.

And the aid-receiving countries would get a larger net benefit because they would not incur the costs of producing bananas above the free trade level to qualify for aid, as is presently the case. Those resources could be used in other enterprises, and the direct aid payments could be efficiently targeted (to modernize the banana industries or perhaps to diversify these economies) — rather than lock resources into inefficient economic sectors, as presently happens.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for developing countries of changes in the industrial countries' trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (31 pages).

524. The Kuwaiti NGOs: Their Role in Aid Flows to Developing Countries

Nural Abdulhadi

A substantial amount of Kuwaiti private aid flows to developing countries — an example of South-to-South aid. More contact and collaboration between Kuwaiti NGOs and other NGOs, donors, and international organizations might be mutually beneficial.

Abdulhadi reports that the Kuwaiti nongovernmental organizations (NGOs) are more active than is widely known.

Kuwaiti NGOs provide substantial amounts of private aid to developing countries — an estimated $70 million to $90 million in 1987-88. This compares favorably with Kuwait's official development assistance of $316 million in 1987 (down from about $1 billion in the first half of the 1980s).

Much of this external aid goes to Africa, the Middle East, and Southeast Asia — particularly to poorer segments of the population in rural areas. Kuwaiti NGOs provided aid, for example, after the floods in Bangladesh, the wars in Lebanon and Afghanistan, the uprising in the West Bank and Gaza Strip, and the droughts in Africa.

But Kuwaiti NGOs have little contact with other NGOs — international, bilateral, or in developed and developing countries. Most Kuwaiti NGOs would welcome contacts and cooperation with others working in similar areas and sectors.

As "South-to-South" NGOs, Kuwaiti NGOs add significantly to private aid, which is otherwise dominated by NGOs from industrial countries.

Kuwaiti NGOs — especially those working in the field, in close proximity to beneficiaries and local communities and NGOs — could benefit the donor community's discussions with local NGOs about community participation in sustainable, flexible programs.

And more external contacts would help Kuwaiti NGOs improve their institutional development efforts and their effectiveness in rural areas.

Most Kuwaiti NGOs support programs both inside and outside of Kuwait. Only three Kuwaiti NGOs are totally outward oriented. A list of NGOs provided by Kuwait's Ministry of Social Affairs and Labor suggests that much of Kuwaiti private aid supports development efforts in developing countries. This trend is expected to persist even if there is a shift toward support of lower-income groups in Kuwait.

This paper — a product of the Policy and Review Department — is part of a larger effort in PRE tounderstand and promote the contributions of nongovernmental organizations to development. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rosetta Grimm, room S12-018, extension 31129 (17 pages).

525. School Effects on Achievement in Secondary Mathematics and Portuguese in Brazil

Marlaine E. Lockheed and Barbara Bruns

Students in Brazil's federal technical schools outperformed students in other schools in both mathematics and Portuguese. Important factors were class size (achievement was higher in larger *classes), the number of hours math was taught (the more the better), the school's organizational complexity, average family social class background, and the number of hours students spent working.*

Lockheed and Bruns use a multilevel modeling procedure to explore (1) the percentage of variance in secondary school achievement in Brazil that could be attributed to the types of school attended, (2) differences between schools in students' achievement in mathematics and Portuguese, and (3) differences between schools in reducing achievement differences based on students' socioeconomic status.

Students in federal technical schools outperformed students in general secondary, SENAI,* and teacher training schools in both mathematics and Portuguese, after holding constant for gender, age, family size, and the number of hours the student spent working. This could reflect differences in students' entry-level performance as admission to federal technical schools in Brazil is highly selective.

For mathematics only, students in private schools outperformed those in public schools.

To explain why students in federal technical and private schools outperformed students in other schools, Lockheed and Bruns explored variations in their organization, quality, and social composition.

Factors significantly related to average mathematics achievement were class size (achievement was higher in larger classes) and the number of hours math was taught (the more time, the higher average achievement), and the school's average student socioeconomic status (family social class background), suggesting that student selection into the schools accounted for much of the observed difference.

Factors significantly related to average achievement in Portuguese were the school's organizational complexity, the average socioeconomic status, and the average number of hours students spent working.

Performance was not different for schools paying higher salaries, day schools, high-fee schools, or schools where teachers attended university.The Kuwaiti NGOs.

*SENAI secondary schools are financed by the federal government but administered by the National Confederation of Industry (a private association of industrial employers).

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to understand differences in educational effectiveness. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-033, extension 33640 (26 pages).

526. Rural Poverty in India, 1973-86

Nanak Kakwani and Kalinidhi Subbarao

Growth (trickle-down) and poverty alleviation (pull-up) programs are not substitutes for each other, but complements, the Indian data on poverty show.

The effects of economic growth can trickle down — but it rarely happens automatically, conclude Kakwani and Subbarao, after assessing the impact of consumption growth on India's poor and ultrapoor between 1973 and 1986.

Conversely, growth's beneficial effects on the incidence of poverty can, but need not, be offset or even nullified by increased inequality of consumption. In India, in 1973-77, they were.

The policy response — a series of antipoverty (consumption-equalizing) interventions since the mid-1970s, aimed at raising the income and consumption levels of the poor and the ultrapoor — was basically sound.

In 1977-83, average consumption grew slowly but inequality of consumption fell in many states — and poverty and the poverty gap were reduced more than in the earlier period. Why is not clear, but the role of direct interventions cannot be minimized.

Program effectiveness is clearly weaker in the poorer states, however, and needs to be strengthened. Employment programs especially — which substantially increased rural employment and income growth — require more effort in Bihar and West Bengal.

Just as increased inequality hurts the ultrapoor disproportionately, so a decline in inequality benefits the ultrapoor more than the poor. From 1983 to 1987, growth was high and there was almost no change in inequality between states. The growth effect dominated a substantial decline in poverty.

Between 1973-74 and 1986-87, rural poverty declined substantially. The incidence of poverty declined from 60.6% to 41.5% and its severity (the gap between the poverty line and an average poor person's income) fell from 18.8% to 10.5%. Even the absolute number of poor declined by about 37 million. The poverty ratio has become more responsive to (1) growth and (2) changing inequality in consumption, except in Bihar and West Bengal.

Both growth and poverty alleviation efforts contributed to this success, conclude Kakwani and Subbarao. But on the whole investments and performance in health, education, and nutrition are unimpressive. It is their impression that the social policies that can raise the capabilities of the Indian people have generally been relegated to the background in Indian policymaking.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to understand better the impact of general and targeted policies on poverty. Preliminary results of this study were reported in the paper "Poverty and Its Alleviation in India," in *Economic and Political Weekly*, 1990. This version was extended to cover 1986-87 and was substantially revised to accommodate the new evidence. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Brenda Rosa, room S9-137, extension 33751 (79 pages).

527. Voluntary Choices in Concerted Deals: Mechanics and Attributes of the Menu Approach

Ishac Diwan and Ken Kletzer

When lenders participate voluntarily in a buyback of debt claims, both the price paid for repurchased claims and the secondary market price of the remaining debt rise — so all creditors realize a net benefit. In contrast, the menu approach to debt reduction allows the debtor to reduce its debt at cheaper prices.

When sovereign debt trades at a discount on secondary markets, a market buyback increases the secondary market price. The wealth of private creditors increases because part of the funds used in the repurchase is a transfer payment to them.

This transfer of resources can be mitigated by imposing a capital gains tax on the remaining debt. Diwan and Kletzer show how this can be achieved by including exit and new-money options in a menu of options from which creditors can freely choose. The menu approach imposes an implicit tax on the capital gains on the remaining debt by requiring lenders that do not exit to extend new loans in proportion to the debt they retain.

It is enough to make the buyback price equal to the earlier predeal price. Any new-money call will do the job. In equilibrium, creditors will provide enough new money to stabilize the post-deal price at a level that leaves them indifferent to the exit option. Increasing the new money call increases the cost of the menu as well as the extent of the debt reduction achieved.

The menu approach Diwan and Kletzer describe does not require that particular choices from the menu be assigned to each lender. Instead, it implements debt reduction through a price system, allowing different creditors to select different portfolios in equilibrium from a common set of options.

With heterogeneous banks, some resources will be transferred when participation in the debt reduction plan is voluntary — and the buyback price will generally need to be higher than the prebuyback price.

Diwan and Kletzer illustrate some of their results by analyzing the recent Mexican debt agreement. They show how to read through the complex financial acrobatics to estimate the net debt reduction. Funds provided by international financial institutions benefited both Mexico and its creditors. Mexico directly retained about 62 percent of these resources and the banks 34 percent.

When creditors are heterogeneous and possess private information about the value of debt reduction to them, a mechanism is needed to elicit that information. Researchers should analyze how a menu can be combined with an auction of new money or exit instruments to elicit that information.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand the costs and benefits of various mechanisms of debt settlement in the context of the international debt crisis. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila King-Watson, room S8-025, extension 31047 (33 pages).

528. Monetary Policy Instruments for Developing Countries

Gerard Caprio, Jr. and Patrick Honohan

Rapidly changing financial markets have led many industrial and some developing countries to change to indirect methods of monetary control. More developing countries can be expected to follow their lead.

In the last few years, many industrial countries have considerably changed their approach to formulating monetary policy. These changes have accompanied — been a response to and a catalyst for — rapid changes in the sophistication and depth of financial markets.

In developing countries, both the evolution of financial markets and growing disenchantment with directed credit programs and bank-by-bank credit ceilings have increased the interest in at least examining and possibly moving to indirect methods of implementing monetary policy.

These developments have implications beyond their direct impact on the effectiveness of macroeconomic stabilization and control of inflation. They can strongly influence the efficiency and long-term development of the financial system and its contribution to economic growth.

Caprio and Honohan provide an overview of the policy issues developing countries face in light of industrial country experience in the last two decades. They discuss the objectives of monetary policy and how these have evolved in recent years, and they describe the different policy instruments that have become available to monetary authorities and how these instruments can be used to cope with the main shocks affecting monetary policy — those related to government deficit financing and to external flows.

Shifting from direct ways of controlling monetary policy is by no means universally appealing, they conclude. Direct controls are simple to operate and seem to offer a sure handle on overall credit or money growth. Several observers have noted that moving away from direct controls often involves a fundamental reorientation of central bankers and government officials, not only toward directed credit but toward the financing of government debt.

But monetary officials in some countries have found that there is no foolproof way to guarantee the achievement of any overall monetary target. Bank-by-bank credit ceilings suffer the same limitation: eventually nonbanks arise to escape credit limits, and banks have every incentive to evade controls. Moreover, such ceilings limit competition and — by choking off innovation and prompting excessive holdings of liquidity — can curtail growth both in the financial sector and in the rest of the economy.

Not all countries are now in a position to apply the experience already gained by industrial countries immediately in operating indirect methods of monetary control, but more and more monetary authorities can be expected to follow the lead taken especially by several Asian economies.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to examine the effects of economic regulation on the financial sector. The paper draws on discussions at a May 1990 seminar on monetary policy instruments sponsored by this Division, with the assistance of the International Monetary Fund. A volume of seminar proceedings will be published in 1991. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Wilai Pitayatonakarn, room N9-003, extension 37666 (21 pages).

529. The Sectoral Structure of Poverty During An Adjustment Period: Evidence for Indonesia in the Mid-1980s

Monika Huppi and Martin Ravallion

Favorable initial conditions, a timely adjustment program, and associated gains to the rural sector allowed Indonesia to maintain the momentum of its progress in poverty alleviation during the difficult 1980s.

Huppi and Ravallion examine the structure of poverty in Indonesia by sector of employment — and how it changed during the adjustment period, 1984 to 1987.

They find that, while aggregate poverty decreased during the period, the gains to the poor were quite uneven across regions and sectors. Gains to the rural sector in key regions were quantitatively important to Indonesia's success in alleviating poverty, they found. Most poverty exists — and most gains in alleviating poverty were made — in the rural farming sector. These gains were associated with crop diversification and continued growth in off-farm employment.

The aggregate distribution of consumption changed little around its growing mean, but substantial shifts in distribution occurred within sectors — so there was virtually no correlation between sectoral growth rates and rates of poverty alleviation. This has important implications for applied general equilibrium models of the effects of adjustment on poverty. Two features of the government's adjustment program favored rural areas and were crucial to Indonesia's evident success at maintaining momentum in alleviating poverty:

- Devaluations increased agricultural exports (largely nonfood crops). The poor shared in sizable gains in cash crop incomes.
- The government and others argue that a serious attempt was made to protect fiscal allocations to programs that directly benefited the poor. The real cuts in public spending were on development spending — especially in more capital-intensive industrial and mining projects. Programs that directly benefited the poor — including labor-intensive rural infrastructure projects — were sheltered in an attempt to expand rural employment opportunities during the adjustment.

The adjustment package undoubtedly helped, conclude Huppi and Ravallion, but one should not underrate the favorable conditions in Indonesia when adjustment started. A period of sustained, fairly equitable growth for several years before adjustment created the circumstances in which, by the mid-1980s, the momentum of poverty alleviation could be maintained at lower growth rates.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger PRE research effort: "Policy Analysis and Poverty: Applicable Methods and Case Studies." Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (47 pages, with tables).

530. The Menu Approach to Developing Country External Debt: An Analysis of Commercial Banks' Choice Behavior

Asli Demirgüç-Kunt and Ishac Diwan

Suppose that each creditor bank to a particular debtor country is confronted with a choice: each dollar of country debt held can be either rescheduled or sold at a given price. What choice will they make? Relatively strong banks will take advantage of a debt workout to exit from the debt. Relatively weak banks will relend.

Demirgüç-Kunt and Diwan explore what determines the choice banks will make when confronted with a "menu" of exit instruments and new-money options, as is now typical in debt workouts for developing countries.

In particular, they examine how deposit insurance and rules on capital adequacy affect a commercial bank's exit decision — arguing that these exit decisions are influenced mainly by the structure of the banks' balance sheets and by the regulatory systems within which they operate.

The FDIC insurance subsidy is more valuable to weak institutions, they argue, so a bank's valuation of the debt claims it holds is inversely related to the bank's financial strength. For a given menu, the relatively weak banks choose to relend.

The banks that choose to exit are those that are financially "strong" and have relatively high exposure to the country whose debt is being recontracted. Contrary to common belief, bank size alone does not significantly affect exit behavior.

Demirgüç-Kunt and Diwan test their results using individual banks' choices in the 1988 Brazil rescheduling deal, the first package specifically based on the menu approach to debt workouts. Their empirical results statistically link commercial banks' characteristics to their portfolio choices — with 83 percent predictability in this sample.

Among the implications for the new debt reduction strategy:

- Larger debt reductions negotiated on a market basis are more costly, per unit of debt reduced. To increase debt reduction, weaker banks must be persuaded to exit, increasing the needed exit price.
- The exit price depends on the strength of the banking industry. So the effectiveness (and cost) of the present debt strategy is affected by changes in the world economy. In boom periods, banks are stronger and exit prices reduced.
- Regulators can affect the cost of debt reduction by altering the regulatory framework within which the banks operate.
- Debt reduction in the developing countries is beneficial to the deposit insurance agencies of the major creditor nations.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand bank choices in debt restructurings. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (35 pages).

531. The World Bank's Role in Shaping Third World Population Policy

Fred T. Sai and Lauren A. Chester

The Bank's comparative advantage in the population field lies in policy development, which it pursues through three main strategies: policy dialogue, sector work, and policy-oriented research.

Since the World Bank became involved in population work in 1969, it has sought to influence Third World population policy by undertaking several types of activity: lending, policy dialogue, economic and sector work, analysis and research, and collaboration with other international agencies.

The Bank's comparative advantage lies in policy development. It uses three main strategies: policy dialogue, sector work, and policy-oriented research.

Policy dialogue occurs with government officials and program managers, mainly through discussions, Bank-sponsored seminars, and project development.

Population sector work, which analyzes the population sector in a particular country, provides a base for operational activities and for initiating policy dialogue with program managers.

Population research in recent years has focused on alternative policy and program strategies.

The Bank's work in policy development has contributed greatly to shifts in government population policy in many countries, and its operational strategies have helped shape population programs in others. Its work program in the coming years will continue to stress policy work.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to disseminate the Bank's population activities to a broad Bank and non-Bank audience. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (23 pages).

532. Privatization in Turkey

Sven B. Kjellström

Turkey's privatization effort has shrunk to being a technique for financing the budget deficit, with loftier targets for greater efficiency pushed into the background.

State capitalism has been a basic tenet of the developing strategy of the Turkish Republic for half a century, with import-substituting industrialization through state economic enterprises (SEEs) as a guiding principle. But by 1980 a serious economic and political crisis called for a reassessment of economic policies. The policy reorientation was radical: from import substitution to export promotion, from interventionism to market forces, and from the promotion of SEEs to the promotion of the private sector.

The state's role in the economy was to be reduced. SEEs were to be streamlined and made more efficient by operating in a more competitive environment under greater cost and price awareness. Greater efficiency would come from either SEE reform or privatization.

Apart from greater price flexibility and the dilution of some monopolies, SEE reform has not made much headway — mainly because the government has been reluctant to adopt and pursue an effective reform program.

Emphasis has instead been put on privatization broadly defined, with the additional objectives of developing the domestic capital markets and generating revenue for the treasury. The initial operations were in the form of sales of revenue-sharing bonds and minority share sales. The first attempt at stock sales flopped, because it took place in a falling market. The approach was then quietly switched to block sales without thorough preparation of the legal ground. The sales went to foreigners, the highest bidders, but this generated much controversy among unions, opposition parties, and industrialists.

Privatization became a contentious political issue that the opposition parties exploited, often in a populist manner. They got the block sales canceled by court orders — on the grounds that the switch to foreign sales was illegal.

The government had not prepared the legal, institutional, and political base for privatization. It had no clear strategy and concrete program for privatization and its assumption that privatization could be treated as an administrative matter was proven wrong. Much was said, little done. Excessive claims, without due safeguards, generated a malaise among groups that privatization could adversely affect.

The cancelation of block sales coincided with a boom on the stock market. Moreover, the treasury came under pressure to generate revenue to contain a growing budget deficit. The sales strategy thus switched back to stock market sales of minority shares. The share sales program has so far been a success, and the proceeds could finance a large part of the 1990 budget deficit. At least for the moment, privatization has thus shrunk to a budget-deficit financing technique, with the loftier targets of enhanced efficiency pushed into the background.

This paper — a product of the Resident Mission in Turkey, Country Department I, Europe, Middle East, and North Africa Regional Office — is part of the Bank's effort to evaluate the experience with privatization. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Thouria Nana-Sinkan, room H4-091, extension 36026 (73 pages, with graphs and tables).

533. Government Revenue from Financial Repression

Alberto Giovannini and Martha de Melo

In theory, governments should not resort to financial repression when they face no constraints on taxation. In fact, countries obtain substantial implicit revenue from financial repression.

Giovannini and de Melo explore the theoretical underpinnings and empirical relevance to public finance of financial repression — of controls on international capital flows and on domestic financial intermediaries. They conclude:

- In principle, countries should not resort to financial repression when they face no constraints on taxation, but such constraints as administrative cost and income distribution objectives might justify an implicit tax on domestic financial markets.
- The revenue from financial repression, measured as the difference between the foreign and domestic costs of government borrowing, can be substantial. The unweighted cross-country average is about 2 percent of GDP and 9 percent of total government revenue (excluding the revenue from financial repression), but varies significantly among countries.
- Reform aimed at liberalizing financial markets — removing international capital controls and price and quantity rationing in domestic financial intermediation — should first estimate what amount of government revenue comes from financial repression and provide for the revenue shortfall that will result from financial liberalization.
- In general, countries with higher rates of inflation, and therefore higher rates of currency depreciation, tend to raise more revenue from financial repression — because the relative costs of foreign and domestic borrowing are influenced by the domestic currency's rate of depreciation, since domestic nominal interest rates are normally fixed administratively.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to explore in more detail the links between fiscal policy and macroeconomic development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (46 pages, with figures and tables).

534. Risk Facing U.S. Commercial Banks

Menahem Prywes

Heavy exposure to risk in bank loan portfolios, together with the introduction of higher capital requirements, suggests a slowdown in the growth of credit. That means weaker U.S. investment and consumption may be expected as well as less credit to the highly indebted countries.

Prywes examines the financial condition of the U.S. commercial banks and of the main private borrowing sectors — households and corporate nonfinancial businesses.

He finds that the bank's loan portfolios expose them to the risk of high losses. That risk — together with the forthcoming increase in the required ratio of capital to assets — gives banks the incentive to build capital, which they may do by slowing down the growth of credit.

One consequence would be weaker U.S. investment and consumption.

Moreover, credit would probably be directed away from higher risk borrowers such as the highly indebted countries. Such lending is unlikely to recover rapidly — except at exorbitant rates. If this cycle follows its historic pattern, there will be an upswing in the growth of bank lending in the longer term, providing new opportunities for creditworthy developing countries.

Financial problems are likely outside the United States, partly because of links between real interest rates and the covariance of equity prices. This suggests protracted high *global* rates and limited private credit flows for development. This conclusion needs to be sharpened by comparative research on the industrial countries.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to identify trends which underly the international economic outlook. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Joseph Israel, room S7-218, extension 31285 (26 pages).

535. Shared Investment in General Training: The Role of Information

Eliakim Katz and Adrian Ziderman

Making it difficult for a (recruiting) firm to know how much a worker has been trained increases a (training) firm's incentive to offer workers general training. Both minimum wage legislation and training certification discourage on-the-job-training.

Katz and Ziderman take issue with the prediction — now standard — that firms will be unwilling to finance training in transferable skills, given the absence of property rights over these investments and the possibility of workers being recruited by nontraining firms. Gary Becker has argued that for such training to take place, workers must themselves bear the burden of financing: without freely working capital markets, market failure results in too little training being demanded and provided.

Extending an approach presented in PRE Working Paper 170, Katz and Ziderman argue that potential recruiting firms possess only limited information about the type and level of general training that workers will have received in other firms. The informational asymmetry between a training and a recruiting firm reduces the net benefits a worker can obtain by moving to another (recruiting) firm — which increases the (training) firm's incentive to finance general training.

The cost to the recruiting firm of discovering a trained worker's potential productivity is high. Katz and Ziderman discuss the role of the options value of general training in raising information asymmetry. They show Becker's training model to be a special case of zero asymmetrical information — rather than a general model of training finance.

This finding has important policy implications. Asymmetrical information counters the deleterious effects on general training of such market imperfections as minimum wage legislation (which makes it difficult for a training firm to recover training costs) and a restricted capital market.

Katz and Ziderman suggest that training certification — by facilitating interfirm mobility — discourages on-the-job training. Certification, by awarding workers property rights over their general training, limits company-financed training and places a heavier financing burden on workers. Certification makes the workers' training visible — but decreases asymmetric information between firms.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to develop policies to improve private and public skills training in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Valerie Charles, room S6-049, extension 33651 (28 pages).

536. The Link Between Poverty and Malnutrition: A Household Theoretic Approach

Maurice Schiff and Alberto Valdés

Past studies have identified nutrition exclusively with nutrient intake. A better definition of nutrition (as the one used here) would critically affect the link between poverty and malnutrition and would affect the implications for policies designed to improve the nutritional status of the poor.

A household's nutrition level or status depends only partly on its nutrient intake (calories, protein, vitamins, and the like). It is also a function of:

• Non-nutrient food attributes that affect nutrition, such as the freshness, cleanliness, and storability of foods purchased.

• Privately provided inputs such as the time and care taken to prepare food to ensure that it is not contaminated or spoiled.

• Publicly provided inputs, such as potable water, sewerage, electricity, nutritional information, and the like.

No matter how closely related, food adequacy (measured by nutrient intake) and nutrition level are not the same thing. The problem of food adequacy may or may not reveal itself as a nutrition problem; and a nutrition problem may or may not be the result of an inadequate supply of food.

The fact that nutrient intake does not increase with income is not itself a cause of concern, though it is viewed that way by some who identify nutrition exclusively with nutrient intake. Such a view overlooks the fact that households have the *choice* of spending increments in food expenditures on nutrients but prefer to spend it on other food attributes. It also ignores the fact that these other food (and nonfood) attributes may also contribute to nutritional status (for example, food freshness and cleanliness, refrigeration, and so on).

In urban areas, nutritional and health status can probably best be raised through the provision of publicly provided inputs (sewerage, potable water, and so on).

In rural areas, nutritional and health status depend largely on household inputs — which depend on income. So raising the rural household's income can raise its nutritional and health status.

One of the best ways to raise farm income is to reduce taxes on agricultural production; another is to increase public spending on factors that raise land and labor productivity in rural areas. Schiff and Valdés argue that agricultural export-led growth has real potential for creating jobs, reducing poverty, and thereby contributing to improvements in the nutritional status of the poor.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study the impact of agricultural pricing and trade policies, and is a by-product of the Comparative Study of the Political Economy of Agricultural Pricing Policies in Developing Countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-025, extension 37947 (15 pages).

537. Commodity Exports and Real Income in Africa

Arvind Panagariya and Maurice Schiff

In providing policy advice and support of investment projects for commodities such as cocoa, the donor community should take into account the effects on, and possible reactions of, the other countries producing that commodity.

It has often been argued that if several developing countries expand exports, they are likely to experience a decline in their terms of trade, export revenues, and real incomes. The general case for this export pessimism has lost much of its force, but remains very much alive for some specific countries and commodities — particularly the export from Africa of cocoa, coffee, and tea, which exhibit low price elasticity.

Panagariya and Schiff systematically analyze this issue for cocoa, a commodity for which many African countries have a large share in world exports. Their concern is chiefly with the problems that arise from low price elasticity of demand in the world market and their implications for trade policy.

They find that increasing productivity in one African country through new investments would benefit that country -- but the other African countries would lose. On the whole the African countries would gain, however, so the gains to the country with expanded output would dominate the losses for the other countries. The return on the new investments for Africa as a whole would be positive — although significantly lower than returns for the country in which the new investments were made.

Panagariya and Schiff:

• Examine how real incomes and tax and export revenues compare under existing and some alternative (Nash, myopic) taxes.

• Analyze the impact of export expansion (through increased efficiency) on real income, export revenues, and tax revenues, under alternative tax regimes.

• Compare the effects of export expansion by African countries with that by non-African countries.

Their results — highly tentative — are based on calibrated equilibria that use specific functional forms and existing point estimates of various elasticities.

This paper — a product of the Trade and Policy Division, Country Economics Department — is part of a larger PRE effort to examine the question of whether the simultaneous expansion of exports by several developing countries would lead to a decline in their terms of trade, export revenues, and real income. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-025, extension 38009 (37 pages, with tables).

538. Agricultural Reform in Developing Countries: Reflections for Eastern Europe

Avishay Braverman and J. Luis Guasch

The experience of developing countries is relevant for the countries of Eastern Europe and the USSR, but offers no magic formulas. The scope of change is greater than that attempted in structural adjustment programs, and so are the opportunities for success and failure.

The countries of Eastern Europe may be able to benefit from the lessons learned from structural adjustment in developing countries although the two reform experiences differ in major ways. For one thing, markets were suppressed more in the formerly socialist countries than in the developing countries. Distortions in the agricultural sector were more massive, and the urban bias was less — because large-scale subsidies allowed producer prices and earnings to rise even though labor productivity was low.

Four issues must be addressed to get the prices nearly right:

• A credible correction of the exchange rate must be achieved. The intent of devaluating the exchange rate is to increase the price of tradables relative to nontradables. Devaluation will achieve its original purpose only if there is political commitment — manifested through fiscal discipline — to change the rural-urban distribution of income. If the government offsets devaluation by spending that increases the income of the urban sector, the result will be cost-push inflation.

• Relative prices must be adjusted within the agricultural sector. The response to a uniform price shift and to changes in relative prices will be modest unless the instruments of bureaucratic intervention are removed. In the former socialist countries, price reform and institutional change are linked: removing bureaucratic constraints on agents' decisions is essential to price reform.

• The transmission mechanism that links domestic to international prices and consumer to producer prices must be changed. Strengthening the momentum of the negotiations on trade liberalization is important to the long-term success of reform in Eastern Europe. But removing relatively cheap subsidized imports will make it harder in the short run for these economies to meet the needs of their most vulnerable consumers.

In Eastern Europe and the USSR, the political and administrative problems of introducing a new tax system are formidable, but do not justify substituting commodity taxes for a more modern fiscal system. The difficulties with the changeover to a new tax system are transitional, rather than endemic, and delay in introducing more appropriate taxes will simply build new distortions into the reformed economies.

• The needs of vulnerable groups must be monitored and addressed. In developing countries, policy reforms in agriculture often imply raising food prices to provide better incentives to producers. Eliminating food subsidies reduces urban income in relation to rural income, because food prices must go up. And price reform can hurt vulnerable parts of the population. The challenge during the adjustment process is to see that large sums of money targeted to help the poor are appropriately distributed to the needy.

In this important look at what the reforming countries of Eastern Europe can (and cannot) learn from the developing countries, Braverman and Guasch discuss these and other issues involved in reforming prices; credit, financial institutions, and marketing boards; property rights, land tenure, and privatization; research, extension, and technology; and efforts to remediate environmental degradation.

A central dilemma in the reform of the Eastern European economies is the tension between commitment and flexibility. Economic agents must believe that the government will play by the new rules and will force others to do so too. Yet the rules must occasionally change or be adjusted as circumstances change. Modern economic theory is of little help in the art of merging flexibility with credibility. Western technical assistance and international financial help can be effective only if professionals of the East and West work together, as this is a process of joint learning, not a pure transfer of knowledge.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE under the Bank's program objective for private sector development and public sector management, with special emphasis on Eastern Europe. This paper was presented at the August 1990 annual meeting of the American Agricultural Economics Association in Vancouver, Canada. It will be published in the *American Journal of Agricultural Economics*. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Cicely Spooner, room N8-037, extension 30464 (22 pages).

539. Maternal Health in Jamaica: Health Needs, Services, and Utilization

Chris Naschak Feifer

The main causes of death in Jamaican women are largely preventable. Jamaican health care for women should be improved by providing more family plan-

ning services; good community-based prenatal education and screening; more training for health care workers; better community education; better health record-keeping; and better transportation for health care workers and women seeking health care services.

Unstable unions contribute significantly to the high fertility levels in Jamaica. Women are often the sole financial, social, and emotional providers for their families. Multiple responsibilities make it difficult for them to seek health care.

High fertility is a particular problem among teen women. Jamaican teens have limited knowledge of reproduction and conception, and a pronatalist attitude (one must have a baby to attain womanhood) is reinforced by widespread misperceptions about contraceptive methods.

Women often fear contraception will alter their menstrual patterns, make them irreversibly sterile, or in other ways harm them. Many women believe, for example, that intrauterine devices can get lost in their body or will hurt their sexual partners; some visualize tubal ligation (tying the tubes) as tying the vagina so they can no longer have sex. There is a great need for health education to overcome such misperceptions, which may block demand for family planning services.

The main health issues for Jamaican women are nutrition (anemia significantly affects pregnant women), fertility, infection, chronic diseases, and stress and social problems. The two leading causes of adult death for women are cerebro-vascular accidents and coronary heart disease — of which high blood pressure is a major component among black women. Infections that affect women include those resulting from sexually transmitted diseases, inappropriate care for abortions and childbirth, and poor hygiene associated with menstruation.

Congenital anomalies and perinatal morbidity are common causes of infant mortality and are believed to be the result of high fertility in older women and teens. Prematurity is a problem, as are intrapartum asphyxia, diarrheal diseases, and malnutrition. Early weaning was identified in the late 1960s as the most important cause of malnutrition and infant mortality in Jamaica.

The main factors causing stress for Jamaican women include unemployment, economic inadequacy, separation of partners, male promiscuity, limited availability of schooling for children, unreliability of goods and services, and violence. Proposed reforms include maternal education, directed economic development, targeting women's ability to gather resources and lower the burden of household responsibilities, and sociopolitical campaigns to increase women's ability to attain ideal fertility levels at appropriate ages and to get medical care when they need it.

The Jamaican health care system needs more family planning services for those who want them; good community-based prenatal education and screening and hospital delivery for high-risk pregnancies; better training of health professionals and paraprofessionals, including midwives, with special attention to the professional isolation of rural health care workers; better community education, including better training of professionals to communicate with their patients; better health record-keeping; and better transportation, so midwives can visit their patients more often and so women can spend less time getting to health care providers.

This paper is a product of the Population, Health, and Nutrition Division, Population and Human Resources Department, in cooperation with the Human Resources Division, Technical Department, Latin America and the Caribbean Regional Office. It is part of a larger effort in PRE to improve women's reproductive health. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (27 pages).

540. Venture Capital Operations and Their Potential Role in LDC Markets

Silvia Sagari and Gabriela Guidotti

Venture capital may play an important role in supporting entrepreneurial development and small business growth. But institutional arrangements and instruments must be carefully chosen, taking into account the lessons from countries where venture capital has been a reality now for a few years. The Bank's role should be largely to disseminate these lessons.

Venture capital attempts to cater to the financial and managerial needs of new operations through arrangements that involve essentially the investor's equity participation in a firm, through the direct purchase of stock or through warrants, options, or convertible securities; a long-term investment horizon (five to 10 years); and the investor's active involvement in the invested company. Typically, venture capital finances start-ups and the expansion of existing operations in terms of advancing into new stages in the production and/or the distribution process.

What role can venture capital be expected to play in financial markets in developing countries? For one thing, say Sagari and Guidotti, it makes little sense merely to transplant techniques directly from the developed to the developing world. The difficulties that traditionally conceived venture capital operations may face in these markets appear many and varied. They have to do with the characteristics of the projects being generated, the size and purchasing power of the domestic markets, the lack of adequate skills, entrepreneurs' attitudes toward sharing control, difficulties with exit mechanisms, and so on.

It may be difficult in many LDC markets to find a series of innovative "high-tech" enterprises that can capture a business niche in which to grow. Yet venture capital operations could flourish in low technology and in the service sector, where competitive advantage might result from an innovative distribution system or marketing strategies. New business opportunities are likely to emerge in deregulating industries, the transfer of technologies, and the marketing of ideas already tested in developed countries. In the smaller LDC markets, exports may provide the potential for growth for manufactured products.

What role should government play? In terms of diect financial support, the record of development banks with venture capital funds has been dismal. Sagari and Guidotti suggest that a more appealing alternative might be for governments to set aside a small "pilot" fund to be managed under contract by a private group, with a remuneration scheme dependent on the performance of the portfolio. Otherwise, the government's main role should be to provide appropriate tax incentives, support the establishment of sound organized markets for new companies, and ensure that the regulatory framework for pension funds, insurance companies, and other institutional investors does not unduly prevent them from investing in venture capital firms of recognized performance.

What role should the Bank play? Venture capital activities are essentially small-scale, so making them the focus of major Bank operations would not be recommended. The Bank's main role should be to disseminate the lessons learned in countries where venture capital has been a reality for some years. The Bank might also have a role in continuing research in some aspects that are still largely unexplored; examples are the financial performance of venture capital firms in the East Asian markets or the interaction between universal banks and venture capital activities.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to explore different options for financing the productive sector and promoting private sector development. The paper explores the potential of venture capital operations as a way to finance start-ups and to expand existing operations in terms of advancing into new stages in the production and the distribution processes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Zena Seguis, room N9-005, extension 37665 (63 pages).

541. Pricing Average Price Options for the 1990 Mexican and Venezuelan Recapture Clauses

Stijn Claessens and Sweder van Wijnbergen

Pricing models are developed to value the recapture clauses in the 1990 Mexican and Venezuelan debt restructuring agreements. The current values of the recapture clauses are less than one-quarter of the maximum contractually possible and decrease as the standard deviation of the oil price increases.

Making restructured sovereign debt obligations contingent on exogenous factors (such as world oil prices) allows some of the risk to be transferred to creditors who have comparative advantage in carrying the risks — as they can diversify them in capital markets.

Contingencies also increase the borrowers' likelihood of fulfilling their (new or restructured) external obligations — and can improve the heavily indebted countries' incentives to invest and adjust, increasing further the likelihood they will service their external obligations.

The 1986 agreement between Mexico and commercial banks included some contingency facilities where new money would be forthcoming if international oil prices fell below a certain level or when Mexico's growth rate was to fall short of a certain rate. In the 1990 Mexico and Venezuela agreements, future debt service obligations were indexed to factors largely exogenous to the countries — the so-called recapture clauses.

Under the recapture clause in Mexico, 30 percent of the extra oil revenues Mexico gets if the price of oil rises above $14 per barrel (adjusted for U.S. inflation) will accrue to the banks that have granted debt service relief. (This amount is not to exceed 3 percent of the nominal value of the debt exchanged for these bonds, in any year.) The value of the recapture clause at maturity depends on three variables: how much oil Mexico exports, how oil prices behave, and the behavior of inflation rates.

Export volume is not a factor in Venezuela's 1990 recapture clause, which in other ways is similar to Mexico's.

Claessens and van Wijnbergen develop pricing models for options written on average prices and contingent contracts used in sovereign debt restructuring. They use the models to price the recapture clauses in the 1990 Mexican and Venezuelan debt restructuring agreements.

The current values of the recapture clauses are less than one-quarter of the maximum contractually possible and decrease as the standard deviation of the oil price increases.

This paper — a joint product of the Debt and International Finance Division, International Economics Department and the Country Operations 1 Division, Country Department II, Latin America and the Caribbean Regional Office — is part of a larger effort in PRE to study the benefits and costs of contingent external debt contracts and debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (14 pages).

542. The Metals Price Boom of 1987-89: The Role of Supply Disruptions and Stock Changes

Boum-Jong Choe

Supply disruptions and low stocks, both transitory in nature, had a strong impact on the boom in metals prices in 1987-89, as did the growth of OECD industrial production and depreciation in the U.S. dollar.

The markets for base metals have changed remarkably in the last few years. A long period of extremely low prices was followed by a sustained price boom in 1987-89 — which continued into 1990 for copper, nickel, lead, and zinc.

What caused the price increases and what they portend for the future are critically important for developing countries heavily dependent on exports of those commodit

Choe examines the causes of the price boom in terms of market fundamentals. Because of the apparent importance of supply disturbances and low stocks, he developed a semistructural price equation to incorporate supply-side variables. The resulting estimates fit better and explain more than those in earlier studies. Estimation and simulation results suggest that:

- The growth of OECD industrial production was the most consistently important factor in the higher metals prices. This positive factor was largely offset by expected increases in metals production. Much of the boom was attributable to such transitory factors as changes in the exchange rate, supply shocks, and low stocks.
- Depreciation of the U.S. dollar was the dominant contributor to the price increases in the earlier part of the boom — particularly for nickel, lead, and zinc. Changes in interest rates were relatively unimportant.
- Supply disturbances and low stocks significantly increased prices, particularly in 1988. Low stocks have been a more important, consistent factor than supply disruptions.
- Market fundamentals explain most of the price boom but a substantial component remains unexplained, suggesting that excessive speculation ("bubbles") may have contributed to the price increases, particularly for nickel in 1988.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the short- and long-run behavior of primary commodity prices and the implications of movements in these prices for the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (21 pages).

543. Development Assistance Gone Wrong: Why Support Services Have Failed to Expand Exports

Donald B. Keesing and Andrew Singer

Policies impeding and neglecting the development of commercial services are a significant cause of the difficulties developing countries experience trying to expand exports. It is misguided to entrust public sector trade organizations with primary responsibility for providing exporters with support services that are better provided by private commercial enterprises.

For more than 20 years, aid organizations have helped developing countries supply export promotion, marketing, and other services to assist exports. Manufactured exports have been especially sought, though typically the policy environment for them remains no more than partly satisfactory. Public sector trade promotion organizations, the main recipients of this aid, turn out to be rarely satisfactory at providing practical information, assistance, and support for export expansion in such a setting.

Keesing and Singer identify four reasons why external assistance to support services has been generally ineffective in expanding manufactured exports:

• The legacy of import substitution in developing countries includes deep-seated attitudes that work against exports, along with outdated production technology, low product quality, poor services to customers, and business skills unsuited to exports. Regulation still impedes market responsiveness, while unfavorable policies have deprived local businesses of export know-how. Thus, the task is huge.

• External assistance for support services has rarely been directed toward helping export firms overcome their production problems, improve their supply capabilities, or adapt what they supply to the requirements of the target market. There has been systematic neglect of firms' need for expert advice in these crucial areas.

• Donor agencies that provide funding and advice in this field almost never insist on results or even require that progress be monitored in terms of exports achieved. Too many donor agencies with money to give away chase too few good project opportunities. The International Trade Center is not in a position to reject a request for an unpromising use of UNDP funds and is not allowed to recommend policies. And donor agencies are seldom successful at extending their impact beyond government.

• Support for the marketing of manufactured exports has usually been provided through an inappropriate delivery mechanism, a single public service supplier in which officials try to provide many services, free of charge. This has been ineffective in countries with only partly satisfactory policies toward manufactured exports. Donors have been committed to a strategy of institution-building but permanent trade promotion organizations set up early in development turn out to be poorly suited to a developing country's later export needs. They even become a vested interest against needed change. The complexity of the task, lack of competition in services, deficiencies of public officials in a service role, and rigid procedures contribute to their poor results. In some countries, systematic assistance to export marketing has been worse than ineffective because it has diverted attention from the fundamental need for policy reform.

Most developing countries assume that "export promotion" is inherently a government task. But what developing countries need most is access to services from outside the firm that can compensate for the limited expertise within it. The required expertise is rarely found in public sector organizations. New approaches in this field center on the provision of consultants from more advanced countries to work with exporters on their production and supply problems.

See also the companion paper, WPS 544.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study export development and supply response. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (44 pages).

544. How Support Services Can Expand Manufactured Exports: New Methods of Assistance

Donald B. Keesing and Andrew Singer

Proposals for making support services effective through outside assistance. Especially recommended based on experience are packages of assistance and promotion built around grant funds that pay firms half the cost of commercial services suppliers such as consultants from abroad, as well as some of their marketing expenses.

Assistance to support services for exports has rarely boosted manufactured exports from developing countries whose export policies were less than fully satisfactory. This is particularly true of services that involve consultant advice, export promotion, marketing assistance, and provision of export-related information.

Keesing and Singer make four recommendations for improving such services:

• Among support services, emphasize services that improve firms' know-how and performance in overcoming supply difficulties, which are the biggest obstacle to expansion of promising manufactured exports. Provide consultant assistance to promising firms in products with strong export prospects, to help them improve their supply capabilities and performance. Advice from consultants with export know-how can substitute for learning from buyers and may be better. Most manufacturing firms in developing countries are unaware of how far behind they are in current practices in systems engineering, productivity, quality control, and other aspects of production management. When they have been cut off for years from international "best practice," help from outside consultants can provide dramatic results.

• Give exporters ready access to commercial service suppliers abroad. As exports develop, systematically favor the development within the national economy of competing (primarily private) service suppliers, some of them foreign-owned. Encourage the establishment of local branches or affiliates of multinational service firms. Dismantle policy obstacles to the use of consultants and other service suppliers from abroad and encourage a policy environment that supports vigorous, diversified export growth. Abolish protection of, and monopolies in, services for exporters. Insist that public service organizations, if they continue to function, charge commercial prices for their services and compete with private services. Encourage private suppliers to compete in providing information services, each with telephone access to many online databases and other commercial information services abroad.

• Rely on specific, time-limited projects or project components involving temporary infusions of specialized resources, where and when needed, to channel external assistance to services supporting manufactured exports. Direct each project component at one export-expanding objective within that time-frame. Any project to expand exports should include specific measures directed at turning passive or nonexporters into active exporters.

• Create packages of assistance built around one or more grant funds. Through these funds, provide cost-sharing grants to firms to help pay the costs of services from suppliers of their choice. The institutions such as banks that administer these funds promote to promising firms exporting and the use of service suppliers (typically from advanced countries) to help expand exports. They assist firms in preparing export expansion plans and grant applications, and help identify suitable service suppliers. In funds set up with World Bank assistance in India, grant funds come with all necessary government approvals and are complemented by funds for term lending.

See also companion paper, WPS 543.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study export development and supply response. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheila Fallon, room N10-017, extension 37947 (44 pages).

545. Health and Development: What Can Research Contribute?

Nancy Birdsall

The conclusions of past research and priorities for future research on the relationship between health and economic development: the effects of development on health and the effects of health on development.

This article will be published in a book of proceedings (edited by Chen, Kleinman, Potter, and Ware) of a workshop on how social science research has contributed to the health transition — held in June 1989 at Harvard University.

Birdsall's survey of the state of research on the relations between health and economic development discusses first research on how development affects health and then research on how health affects development. Some areas covered:

Research on the household-level determinants of health could aid in the design of public programs to improve health — especially in developing countries, where improving health will require changes in individual and household behavior.

Research on the demand for health care — including the price elasticity of demand for health services and how using health services affects health — could make it easier to improve government pricing policies and design cost control mechanisms.

Work on the determinants of adult (not infant and child) health (morbidity and mortality) should be a high priority, given the epidemiological and demographic transitions going on in virtually all developing countries.

Better understanding of the political economy of health — especially of alternative financing and cost control mechanisms — combined with work on the determinants of adult health, will be critical to public policy to deal with rising health care costs, through the design and efficient financing of public and private health insurance, and through greater emphasis on prevention of adult chronic and degenerative disease.

More systematic analysis of the social returns on investments in health in developing countries may be needed to support continuing increases in ever costlier health care. It is difficult to do cost-benefit analyses, partly because of the difficulty of valuing human life — and of valuing a healthy, painfree life more than a sick and painful one. But other approaches are possible, including analysis of the effects of an individual's health status on productivity (at work or school) and analysis of the social and economic costs of poor health for families and communities.

Efforts to measure the returns on investment in good health are critical in a world of scarcity, where the benefits of many worthwhile investments must be compared. And such efforts are likely to change not only our sense of how much to invest in health but our sense of how to allocate such investments.

This paper was prepared by the author when she was Chief, Population and Human Resources Operations Division, Country Department I, Latin America and the Caribbean Regional Office. It is part of a larger effort in the Bank to set research priorities in the economic management of social programs. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Livia Mitchell, room I4-035, extension 38589 (39 pages).

546. The Transition to Export-Led Growth in South Korea, 1954-66

Stephan Haggard, Byung-Kook Kim, and Chung-in Moon

South Korea's transition to export-led growth was a product of the interplay of four factors: pressure from the United States, strong executive power, bureaucratic reform, and a restructuring of the relations between the state and business.

In analyzing the turning point in Korea's transition in the early 1960s from a strategy of import substitution to one of export-oriented industrial growth, Haggard, Kim, and Moon examine not just the economics of change but the politics of economic policy and reform — the incentives facing state and business elites and the institutional context in which they operated.

Their analysis shows that the transition to export-led growth in South Korea was a product of the interplay of four factors: pressure from the United States, the dominance of the executive branch, institutional reform within the bureaucracy, and a restructuring of relations between the state and business.

Their findings help reconcile the debate between neoclassical and "statist" positions on Korea's economic transformation. They also provide an example of an institutional approach to economic development that is relevant for other developing countries.

They also draw some conclusions about the role of outside pressure in policy reform, about the importance to reform of administrative capability and organization, and about the politics of policy change. Among those conclusions:

- Economic development strategies are not simply packages of discrete policies — but involve the development of administrative capabilities.
- The timing of political cycles affects economic reform.
- Economic policies are more likely to be effective if the private sector has channels of access to government but does not dominate the policy process. Some mechanisms of insulation are required to shield business from its own instinctive tendency to exploit rent-seeking opportunities.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the way that political and institutional factors interact with economic policy reform. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room N11-061, extension 39361 (43 pages).

547. Does High Technology Matter?: An Application to United States Regional Growth

Andrea Boltho and Robert King

U.S. regional data show that jobs created through the birth of high-tech firms — though small-scale — help explain why growth rates differ between states. A high birthrate for firms is negatively correlated with growth, but innovative activity at technology's frontiers seems to raise the standard of living.

The International Economics Department, International Economic Analysis and Prospects Division (IECAP), prepares regular reports on the long-term prospects for growth of the global economy, and the implications for developing countries. This paper is part of IECAP's research program on sources of growth, why growth rates differ, and how structural change affects long-term growth prospects.

Boltho and King studied the influence of high technology on output growth by using cross-section data on U.S. states. Drawing eclectically on the sources-for-growth literature, they estimated a base equation that explains about half of the differences in per capita gross state product growth rates in the 48 contiguous states in the decade 1976-86. Using microdata on employment in high-tech activities, they conducted tests to see how important high-tech was — as measured by how many jobs were created by new firms — in explaining growth differences between regions.

They found that:

- Starting income levels, changes in the investment share of output, and changes in the labor participation rate influence regional growth rates.
- A higher overall birthrate for firms on average for 1976-86 is negatively correlated with growth.
- But the share of new jobs created in new high-tech activities has a powerful, positive effect on per capita income growth. This supports the hypothesis that innovative activity at technology's frontiers helps raise living standards.

This paper — a product of the International Economic Analysis and Prospects Division, International Economics Department — is part of a larger effort in PRE to study long-term prospects for growth in the global economy. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Milena Hileman, room S7-214, extension 31284 (12 pages).

548. Deposit Insurance in Developing Countries

Samuel H. Talley and Ignacio Mas

The pros and cons of deposit insurance systems — and guidelines for their design.

About a dozen developing countries have deposit insurance systems and several others are considering establishing them. These systems are typically created to prevent contagious bank runs, to provide a formal national mechanism for handling failing banks, and to protect small depositors from losses when banks fail.

Without a deposit insurance system, many developing nations in recent years have extended implicit deposit protection to depositors on a discretionary, ad hoc basis.

Deposit insurance systems have several advantages over these implicit protection schemes. Deposit insurance probably gives the banking system more protection against bank runs, provides more protection for small depositors, and — by replacing discretion with rules — provides a faster, smoother, more consistent administrative process.

On the other hand, deposit insurance probably creates more moral hazard for depositors, thereby contributing to the erosion of market discipline and increased bank risk-taking. Deposit insurance also tends to be a more expensive mechanism for protecting depositors because it offers less freedom of action to policymakers than an implicit scheme. Finally, developing countries often do not adequately fund their deposit insurance schemes. As a result, the systems often lack credibility in the marketplace and bank supervisors may be unable to close insolvent banks because the insurer would be unable to pay off insured depositors.

Deposit insurance systems are relatively complex mechanisms that must be designed properly to be effective. They generally function best if they are public, if they are adequately funded and have government backup support in a crisis, if bank membership is compulsory, if deposits are not fully insured, and if the insurer can resolve bank failures in a variety of ways.

Deposit insurance systems are no substitute for effective bank supervision in maintaining a stable banking system. Moreover, they are likely to founder sooner or later without effective bank supervision.

This paper is a product of the Financial Policy and Systems Division, Country Economics Department, and the Industry, Trade, and Finance Division, Technical Department, Latin America and the Caribbean Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Megan Pomeroy, room N9-003, extension 37666 (116 pages, including appendices).

549. Intertemporal Substitution in a Monetary Framework: Evidence from Chile and Mexico

Patricio Arrau

The Euler approach seems to work better when money is considered. For both Chile and Mexico the estimates of the intertemporal elasticity of substitution are greater than one.

Arrau estimates a monetary Euler system of a utility-maximizing representative consumer from two inflationary Latin American countries: Chile in the late seventies and Mexico in the early eighties.

The results show that money is necessary to get reasonable parameters of the utility function. For both countries, tests of the overidentifying restrictions are satisfactory at usual levels of significance and estimates for the intertemporal elasticity of substitution are greater than one.

The results indicate that velocity sensitivity to the nominal interest rate is lower for Chile than for Mexico, but this difference could be explained by a model of currency substitution.

More important, a model of currency substitution may be the appropriate way to explain the monetary puzzle observed in Mexico after the stabilization attempt of late 1987.

Despite the fact that inflation was sharply (and permanently) reduced, velocity did not go down. The model of currency substitution suggests that a good way to hedge against a discrete devaluation would be to increase liquidity in foreign — not domestic — currency.

This paper — a product of theDebt and International Finance Division, International Economics Department — is part of a larger effort in PRE to apply new models of international finance to developing economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (27 pages).

550. Firms' Responses to Relative Price Changes in Côte d'Ivoire: The Implications for Export Subsidies and Devaluations

John L. Newman, Victor Lavy, Raoul Salomon, and Philippe de Vreyer

Firms in Côte d'Ivoire would sell more to the foreign market when it is more profitable to do so. Exports would respond positively to increases in export prices and negatively to increases in import prices.

Since the early 1980s, export subsidies have been proposed as a way to counteract the adverse effects of an exchange rate overvaluation among member countries of the West African Monetary Union. It was felt that one way to alter the relative price of traded to nontraded goods was to attempt to mimic devaluation by raising import tariffs and export subsidies by the same proportion.

Arguments on both sides of the issue were not based on extensive empirical evidence. This paper models the short-run response of firms to exogenous changes in export and import prices, taking into account the possibility that firms may sell to both domestic and foreign markets.

Contrary to prior expectations, the results suggest that firms in Côte d'Ivoire do sell more to the foreign market when it is more profitable to do so. Exports respond positively to increases in export prices and negatively to increases in import prices.

But the fact that exports would be lower if an export subsidy were combined with an import tariff is not an argument for introducing an export subsidy alone. Firms producing tradable goods suffer from an overvalued exchange rate not only because they would receive a lower price for their exports but also because they must compete against lower priced imports.

Introducing an export subsidy alone would be insufficient to increase output in the tradable goods sector. The combination of an export subsidy with an import tariff, which comes closer to mimicking the effects of devaluation, would serve to counteract some of the adverse effects on output of an overvalued exchange rate. What the longer run effects would be remain to be seen.

Two methodological results emerged. First, the exercise of estimating firms' output supply and input demand functions using flexible functional forms was successful. The estimates satisfied theoretical curvature properties and the price effects were estimated precisely.

Second, estimating supply and demand jointly leads to considerably different estimates of export and output supply responses than estimates based on supply alone.

This paper — a product of the Welfare and Human Resources Division, Population and Human Resources Department — is part of a larger effort in PRE to analyze the relationship between trade policy and industrial structure and performance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Angela Murphy, room S9-114, extension 33750 (36 pages, including tables).

551. Australia's Antidumping Experience

Gary Banks

The Australian experience suggests that antidumping is, at heart, about safeguarding the interests of particular industries. As long as this is true, there will always be tension between antidumping policy and the broader interests of the national economy and the world trading systems.

One side of the debate on antidumping argues that dumping is *not* a problem in international trade — that it is a normal business practice that benefits the importing country's consumers and user industries — and that antidumping is inherently protectionist.

The other side argues that an antidumping system has a legitimate role to play in maintaining a liberal trading order, but that the process is being abused for protectionist ends.

Gary Banks uses Australia's experience in the last decade to shine light on the issue.

Antidumping is a complex process with many rules that, depending on interpretation or minor changes, can have important effects on the fortunes of home industries. This means that the system and how it operates will remain of abiding interest to import-competing industries. Lobbying for rule changes or favorable interpretations will continue as long as the expected returns from such lobbying exceed the costs. Whether or not antidumping serves as a protectionist device in Australia, says Banks, industry sees it in that role.

It is difficult for industries to get the conventional border protection that was common 10 years ago. Under trade liberalization, "protection" has become a discredited concept in Australia. But in the United States and elsewhere, "fairness" is always popular — and antidumping (the very term) is seen as being about achieving fairness.

It is the "low-track" route for getting protection against imports. It takes place according to rules and procedures that industry and specialist consultants soon master, away from the public glare. More "high-track" routes are more costly and more likely to meet persuasive opposition.

The demand for antidumping as a protectionist device will continue and can be expected to rise when times "get tough," says Banks.

Australia's new Anti-Dumping Authority (ADA) has brought a fresh and more critical eye to the antidumping process in Australia. In particular it has tightened up on how the injury test is implemented and has given a second pass at "normal value" arithmetic. Several times its assessments have differed from those of Customs — in a direction more sympathetic to the foreign importer. But that may have more to do with the government's current attitude than with the institutional innovation itself.

The ADA operates within the same industry-specific framework as the Customs Service but is more attuned to the political environment in which technical decisions are made. But that can cut both ways.

The antidumping system retains a degree of administrative or ministerial discretion that will always make it vulnerable to the business and political cycles. That is true whatever the country. The Australian government has at least wrestled publicly with the issues to arrive at a more precise, objective position.

But on the three touchstones of the antidumping process — definitions of normal values, material injury, and causality — arbitrary judgments will always need to be made at many points. These judgments will inevitably be colored by the political and economic climate of the day. Compared with the early 1980s, says Banks, that climate is currently relatively "dry" — but that can change again.

The evidence from Australia's experience, says Banks, suggests that dumping may be a problem in international trade but that antidumping presents even greater problems. Tinkering with the procedures and criteria for taking antidumping action can help reduce its protectionist tendencies somewhat (though such changes are reversible). But it does not resolve the fundamental problem that antidumping is at heart about safeguarding the interests of particular industries. As long as this remains the objective, there will always be tension between antidumping policy and the broader interests of the national economy and the world trading system.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to understand the economics of the emergence of "fairness" as a standard for regulating international trade, its implications for the continued openness of the international trading system, and its continued functioning as an important vehicle for development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Nellie Artis, room N10-013, extension 37947 (58 pages, with figures and tables).

552. Selected World Bank Poverty Studies: A Summary of Approaches, Coverage, and Findings

Nancy Gillespie

A review of country economic and sector work on poverty issues — and recommendations for improving future country economic and sector work.

Since the establishment in 1987 of the Task Forces on Poverty and Food Security, a good deal of country economic and sector work has analyzed poverty issues.

Gillespie reviews this work to identify the main policy issues it raises; describe how the Bank approaches the study of poverty issues (is the focus macroeconomic, sectoral, or on target groups?); summarize the main findings and lessons learned from the country economic and sector work reviewed; assess the extent to which country economic and sector work has identified strategies, policy reforms, and programs to reduce poverty that could be supported by the Bank's policy or project lending; raise additional issues that could be addressed in future poverty-related country economic and sector work.

Among other things, Gillespie concludes or recommends that:

- A poverty profile should assemble enough information about the poor to permit analysis of the causes of poverty. Income-based measures capture only one dimension of poverty. Information on the economic activities and nutrition, health, and education of the poor should also be included, with trend indicators.
- Comprehensive studies produced important policy conclusions. The more narrowly focused studies tended to neglect potentially important aspects of poverty strategy. Studies that focus only on targeting services in the social sectors, for example, may fail to consider important macroeconomic or sectoral policy issues that affect the income prospects of poor people. Such issues are vital not only to raising the demand for social services but are central to any sustainable strategy for poverty reduction.
- On balance, studies devote more attention to improving the human resources of the poor and to devising short-term social sector safety nets for the poorest, than to identifying strategies to raise their incomes. Country economic and sector work should explore the determinants of poverty, not only access to welfare-enhancing goods and services.
- Particular priority should be given to analyzing links between economywide policies that affect growth in employment, the functioning of the labor market, the role of complementary public spending and investments, and poverty. Poverty strategies should give more attention to the dynamics of urban informal and rural nonfarm activities in providing income; the problems of urban poverty and their implications for poverty reduction strategies; ways to enhance small-scale agricultural productivity; the relationship of poverty and land tenure structures; the role of the private sector in product and service delivery in the social and agricultural sectors; the role of infrastructure provision in poverty reduction; and the complementarity of investments in the productive and social sectors.

• Issues of political economy are too important to be ignored. At a minimum, political issues should be addressed in the initiating memorandum and studies should identify and elaborate politically feasible strategies.

• Issues of how to finance poverty reduction strategies are generally neglected. This is an important gap in the studies, particularly for more operationally oriented country economic and sector work.

• Institutional findings from all sectors emphasize the need to make special efforts to reach the poor — but few studies offer guidance on how to do so. Such guidance should be a priority for operationally oriented country economic and sector work.

This paper — a product of the Review and Analysis Division, Policy Review Department — is part of a larger effort in PRE to help improve the treatment of poverty issues in the Bank's analytical and operational work. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Marilou Abiera, room S13-033, extension 31262 (79 pages, including annexes).

553. Money, Inflation, and Deficit in Egypt

Marcelo Giugale and Hinh T. Dinh

Despite huge public sector deficits, Egypt has escaped high inflation by depleting three nonrecoverable assets: creditworthiness, money illusion, and enforceable foreign-exchange controls. Without a tough reform program, the country will soon be in a serious crisis.

Egypt has been able to escape high inflation by depleting its stocks of creditworthiness, money illusion, and enforceable foreign-exchange controls. These nonrecoverable assets are quickly becoming extinct and the economy is on an unsustainable path.

Giugale and Dinh present a short- and medium-term dynamic model of the Egyptian economy and use it to simulate the effects on output and inflation of a stabilization-cum-adjustment program.

Their conclusion: make the public sector live within its means, and do so at once. This is a demanding prescription; political and social pressure can become intolerable under adjustment. But Giugale and Dinh show that both a slowdown in output and the initial rise in inflation associated with a tough reform program will be short-lived (between one and two years).

And a do-nothing strategy will soon push the country into a serious crisis, the correction of which will certainly be more painful. Among other things, Egypt depends on basic imports such as food.

This paper is a product of the Country Opereations Division, Country Department III, Europe, Middle East, and North Africa Regional Office. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Vasantha Israel, room H10-027, extension 36097 (49 pages).

554. Korea's Labor Markets Under Structural Adjustment

Dipak Mazumdar

Korea's ability to keep the economy from going off the rails has been as remarkable as its achievement of high long-run growth rates. The key to the success of Korea's labor policy — state guidelines limited the wage increases under structural adjustment — was the high rate of total factor productivity growth.

Korea is an interesting case study in long-term and short-term adjustment. Korea's rate of economic growth after 1965 was high at a time of rapid, fundamental economic restructuring. Korea's open, export-oriented economy — dependent on imports of oil and intermediate inputs — was exposed to oil price shocks and interest rate hikes.

To keep up the rate of investment, Korea borrowed heavily in the world market — and appeared to be highly vulnerable. And it had a history of walking a tightrope between inflationary pressures and balance of payments deficits.

Korea's ability to keep the economy from derailing has been as remarkable as its achievement of high long-term growth rates.

Mazumdar concludes that wage behavior in the formal sector played a significant role in adjustment, but not because there was an elastic supply of labor at a stagnant wage during expansion. On the contrary, real wages rose impressively throughout the period of growth. But real wage increases lagged behind the growth rate of labor productivity (except during the "big push" of the late 1970s). And during the years after the oil shock real wages stagnated or even declined somewhat despite a spurt in productivity.

The wage-setting mechanism seems to have been strongly influenced by state guidelines, which encouraged wage increases as incentive payments but kept them within the limits of productivity increases — subject to the necessity of dealing with short-run shocks.

The key to the success of Korea's labor policies was the high rate of total factor productivity growth. This also allowed for continued nominal devaluation of the *won* without triggering secondary pressures on domestic costs or damaging external competitiveness.

The above points pertain to the behavior of the large-scale "formal" sector of the economy. But wage employment in small firms and the self-employed constitute a sizeable part of the labor market. How did labor earnings in these sectors perform relative to the wage gains in the formal sector? For lack of data Mazumdar focused on farm workers, wage earners in small firms, and also a section of the workforce whose relative earnings have been low throughout — that is, female workers.

Women and workers in the farm sector and small firms shared to some extent in wage increases, but the long-term record for these groups is not entirely satisfactory.

This paper — a product of the Studies and Training Design Division, Economic Development Institute — is part of a larger effort in PRE to understand the behavior of labor markets in the process of structural adjustment of the economy. The paper is one of the country studies prepared for the project on "Labor Markets in An Era of Structural Adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Marshall Schreier, room M4-023, extension 36432 (55 pages, including figures and tables).

555. The Macroeconomics of Price Reform in Socialist Countries: A Dynamic Framework

Simon Commander and Fabrizio Coricelli

The macroeconomic consequences of adopting different price rules for adjusting controlled prices in systems where controlled and market prices coexist and the implications of varying the proportions of controlled and market prices.

Commander and Coricelli analyze the macroeconomics of a system in which controlled and market prices coexist — as happens in socialist countries carrying out gradual price reform. They refer in particular to recent experience in Hungary and Poland with price reform.

They analyze the macroeconomic implications of adopting different price rules for adjusting controlled prices — and discuss the implications of varying the proportions of controlled and market prices. They find that:

• When expectations play an important role, the slow adjustment of controlled prices can serve as an "anchor" for the rate of inflation. But since price controls generally have negative effects on the budget, when money is passive and hence accommodates budget deficits, gradually adjusting controlled prices may fuel inflation through the fiscal/monetary channel. Consequently, expectations and budget adjustments may exert conflicting pressures on inflation, thereby complicating the management of a mixed system of controlled and market prices.

• In adjusting controlled prices, being too responsive to macroeconomic imbalances can destabilize the system; giving heavy weight to reducing the wedge between controlled and free prices stabilizes the system.

• Forward-looking behavior on the part of price-setters is conducive to stability; forward-looking behavior on the part of consumers is destabilizing.

• Complete price liberalization is superior to a mixed system in terms of stability but is likely to be associated with substantial overshooting of the equilibrium inflation rate. Rapid price liberalization tends to produce an inflation rate that is initially higher, but less persistent, than gradual price liberalization would produce.

This paper — a joint product of the National Economic Management Division, Economic Development Institute, and the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to analyze the sources and dynamics of inflation in transitional socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Olga del Cid, room M7-047, extension 39050 (45 pages).

556. Taxing Choices in Deficit Reduction

John Baffes and Anwar Shah

To control their deficits, Brazil, Mexico, and Pakistan should try to raise revenues and curtail spending simultaneously. In Argentina and Chile, the first priority should be to control public spending.

Baffes and Shah use the cointegration approach to determine whether deficits are more effectively controlled by raising taxes or controlling expenditures — or both. They use long-term historical time series data for Argentina, Brazil, Chile, Mexico, and Pakistan.

Many studies have examined causality in the relationships between taxes and spending in developed countries. Some have found evidence that higher spending tends to lead to higher taxes. Some have found that higher taxes lead to more spending. Some find that causality runs both ways.

Baffes and Shah find that Brazil, Mexico, and Pakistan have continuously tried to align revenues and spending to control the deficit and that spending and taxes tend to feed each other in those countries.

In Argentina and Chile, they found the deficit to be explosive — and caused by spending. There was no empirical evidence of efforts to adjust revenues to control the deficit.

They recommend that to control the deficit Brazil, Mexico, and Pakistan should try to raise revenues and curtail spending simultaneously. In Argentina and Chile, however, the first priority should be to control spending.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to investigate the causes and consequences of macroeconomic imbalances. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (24 pages).

557. The New Fiscal Federalism in Brazil

Anwar Shah

Fiscal arrangements in Brazil severely constrain the federal government's ability to fulfill its mandate as a national government. Municipal governments, meanwhile, have more revenues than they need, encouraging fiscal mismanagement. Reform is urgently needed to counteract Brazil's fiscal imbalance.

Brazil is a three-tiered federation of 24 states, two federal territories, a federal district (the capital), and 4,300 municipalities. In 1989 less than half of all government spending was controlled by the federal government. Brazil's new constitution gave autonomous broad powers to states and municipalities on certain tax and spending functions, with municipalities independent of and coequal to states.

Shah reviewed and analyzed the intergovernmental fiscal relations in Brazil. He found that:

• Federal and state governments are involved in purely local functions in an uncoordinated fashion.

• The administration of sales tax by all three levels creates duplication and confusion.

• Administration of the general value-added tax by the state involves unresolved issues about tax crediting on interstate trade.

• The state and municipal revenue-sharing funds do not distribute revenues fairly and equitably.

• Conditional transfers are arbitrary and driven primarily by political considerations. Programs work at cross-purposes and the subjective nature of these transfers may be sending the wrong signals to lower levels of government about laxity in fiscal management.

• Revenue-sharing constrains the federal government's ability to fulfill its mandate as a national government and is conducive to fiscal mismanagement as local governments are shying away from raising revenues from property taxes and user charges. The municipal governments have more money than they need. The state governments also face a financial squeeze but it should be short-lived as they have access to the value-added tax, a dynamic source of revenues. The federal government's problem is structural. Its revenues fall far short of its spending needs.

• In short, existing fiscal arrangements have created a vertical fiscal imbalance.

Shah presents policy options to resolve these problems.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to reform public sector management in developing countries. It is one of a series of discussion papers prepared for the Intergovernmental Fiscal Relations Project of the Public Economics Division. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (117 pages).

558. Alternative Instruments for Smoothing the Consumption of Primary Commodity Exporters

Kenneth M. Kletzer, David M. Newbery, and Brian D. Wright

To reduce price risk caused by the instability of primary commodity markets, countries that depend for export earnings on a single primary commodity can find substantial long-run protection by rolling over one-period futures. The practical benefits of a substantially longer hedging horizon may often be small.

Countries that depend on a single primary export for their foreign earnings are likely to experience sharp fluctuations in export earnings and their underlying wealth, because of the instability of all primary commodity markets. As part of structural adjustment, several countries have liberalized their trade regimes, so domestic producers are no longer insulated from international price fluctuations.

Kletzer, Newbery, and Wright review the costs of export price instability and consider the role of conventional instruments (loans, price stabilization measures, future contracts, and futures rollovers for longer-term price protection), as well as instruments loosely called "commodity bonds." They weigh the implications of the risk of borrower default when the borrower's aim is smoothing consumption. They conclude:

• In principle, consumption-smoothing contracts might be valuable to countries dependent on an export commodity subject to price risk. Futures coverage could help if longer maturities were available. They conclude that substantial long-term protection is possible by rolling over one-period futures. The marginal net benefits of lengthening the horizon beyond the one production period (roughly observed in practice) depend upon transaction costs, the degree of serial correlation, and the discount factor. In practice, the extra benefits of a substantially longer hedging horizon may often be small.

• If production responds to incentives with a one-period lag, the rollover strategy does not provide perfect protection at the time the hedge is made — even if the production response to inputs is nonstochastic, as opposed to the case of one-period hedging.

• When a sovereign exporter can offer no collateral and is short of liquid resources, the use of futures is precluded by the need to furnish the margins that guard against default. The disadvantage of standard loans and buffer funds is that they will probably reach crisis states in which the resolution of the crisis is ill-defined. The lenders' recognition of this will dampen their enthusiasm.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to improve developing countries' management of the substantial commodity price risk which most face. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Julie Carroll, room S7-069, extension 33715 (69 pages).

559. Fiscal Policy and Private Investment in Developing Countries: Recent Evidence on Key Selected Issues

Ajay Chhibber and Mansoor Dailami

The key to sustained recovery in developing countries is the revival of private investment. This revival requires a coordinated set of credible policies — fiscal, exchange rate, tax, and public expenditure restructuring. In several countries the debt overhang is also an obstacle to achieving that credibility.

The importance of private domestic investment in growth and development strategies is important in the transition to the 1990s. In most developing countries in the 1980s, domestic investment bore the brunt of the total contraction in demand associated with external adjustment.

Increasingly there is agreement about the desirability of increasing the private sector's share in total capital formation by relying more on market forces and incentives. It is now widely accepted that expansion of private investment should be the main impetus for economic growth, and that public investment resources should gradually focus on social areas, including the alleviation of poverty and the upgrading of social capital and services. Investment opportunities have improved in the industrial countries so it is foolish to assume any favorable response by foreign investors to investments in developing countries without a strong commitment by indigenous private investors.

Chhibber and Dailami investigate several questions in connection with fiscal policy, its connections with the pace of private domestic investment and its role in the adjustment programs of developing countries: How do choices between alternative sources of deficit financing affect private investment? How does private investment in developing countries respond, for instance, to devaluation of the exchange rate? To what extent does public investment complement private investment and to what extent does it crowd it out in the competition for resources? How does the size of the fiscal deficit and alternative ways of financing it affect private investment? How do these options affect the real interest rate, credit allocation, and the real exchange rate, and how do those variables affect private investment? How does public spending affect private investment decisions? What effect does inflation have when there is no fully indexed tax system?

Chhibber and Dailami conclude that most developing countries have restricted access to foreign financing so there is direct competition between the public and private sectors for limited financial resources. Big fiscal deficits preempt funds and restrict private investors' access to them. But spending cuts must be structured to protect and even expand public investments that help private sector investment and — more important — to avoid physically crowding private firms out from product and factor markets.

With reduced fiscal deficits and financial liberalization, market forces will play more of a role in the volume and allocation of private investment. Tax policy will be increasingly important in influencing market investment decisions. This requires a better understanding of various institutional, financial, and tax factors that have led to so much corporate indebtedness in developing countries.

Chhibber and Dailami highlight the main elements of these factors that must be incorporated in determening the cost of capital to firms and the after-tax rate of return to investors.

This paper — a product of the Development Economics Vice Presidency — is part of a larger effort in PRE to understand the determinants of private investment. This paper is to be published in *Ricerche Economiche.* Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Bilkiss Dhomun, room S9-041, extension 33768 (44 pages).

560. The Persistence of Job Security in Reforming Socialist Economies

Milan Vodopivec

The job security and overemployment that characterize even the reforming socialist economies are the result not of planning but of a complicated bargaining among coalitions that results in a massive bailing out of the ailing or less productive firms and workers at the expense of the more productive ones and of the household sector as a whole.

The quest for efficiency underlies the reform efforts of the socialist economies, but job security and overemployment (redundant jobs) still characterize these economies. Vodopivec argues that reforming socialist economies have maintained job security not through planning but mainly through a complicated bargaining among coalitions (special-interest groups) that results in a massive redistribution. This redistribution amounts to a bailing out of the ailing or less productive firms and workers at the expense of the more productive firms and workers and of the household sector as a whole.

Vodopivec substantiates his argument with an empirical analysis of the redistribution associated with the soft budget constraint in Yugoslavia in the 1970s and 1980s. He shows that redistribution to be the outcome of a confrontation among coalitions and explains its compensatory nature.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to investigate the labor markets in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-045, extension 37188 (44 pages).

561. The Labor Market and the Transition of Socialist Economies

Milan Vodopivec

One challenge of the transition of socialist economies to multiparty democracy and a market economy will be to reallocate labor while minimizing the social costs of unemployment. Vodopivec identifies the key issues of labor reform and makes policy recommendations.

All socialist countries of Eastern Europe except Albania are now starting to fundamentally restructure their economic and political systems — with the clear goals of a market economy and multiparty democracy. Reform of the labor market is essential to these efforts, the reform that will set wages and employment solely in the interests of efficiency, and leave social protection to the cash benefit system.

The labor market in socialist economies was traditionally plagued with grave rigidities: most importantly, workers enjoyed practically complete job security; firms were informally pressed, and even legally obliged, to hire; part-time and fixed-term employment were legally discouraged; hiring, reassigning within the firm, and dismissing on disciplinary grounds were excessively bureaucratic; both wage bills and wage rates were administratively regulated; and workers were entitled to many fringe benefits typically not found in market economies.

These rigidities produced what Vodopivec calls the full employment syndrome — a labor market characterized by inefficient labor allocation, suppressed work incentives, and inherent wage drift tendency. At the heart of this syndrome is the lack of appropriate mechanisms to enforce the exit of firms (workers) that results in a massive employment subsidization.

A key feature of the transition will be redundant labor and, almost certainly, significant unemployment, together with labor shortages for certain skills. The challenge for these economies will be to massively reallocate labor at the least social cost.

Active labor market policies will be important — not just income support schemes but policies that improve labor mobility and increase labor absorption. These economies must improve their ability to train and retrain workers and to do such things as help small businesses, improve schooling, link universities with businesses, and help with technology transfer.

To eliminate employment subsidies, argues Vodopivec, requires imposing lasting financial discipline, including transparent (individual) property rights, an unselective and transparent fiscal system, and a multiparty political system (to provide checks and balances for the ruling party and thus contain its ability to redistribute).

Vodopivec also recommends policies for job security, incomes policy, wage differentials, nonwage labor costs, and wage taxation.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to investigate the labor markets in socialist economies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-045, extension 37188 (44 pages).

562. Anticipated Real Exchange-Rate Changes and the Dynamics of Investment

Luis Serven

Unanticipated changes in the real exchange rate affect investment through their impact on the desired capital stock, whose direction depends on a number of factors *and is in general ambiguous. In contrast, anticipated changes can also have an important effect on the optimal timing of investment, in a direction that depends on the financial openness of the economy and on the import content of capital goods. This issue is explored using a simple macroeconomic model.*

The impact of permanent real depreciation on a country's capital stock is uncertain. Whether total capital stock rises or falls depends on how depreciation affects aggregate demand, the real interest rate, and especially the import content of capital goods. In the long run, the capital stock can be expected to rise in traded goods and fall in nontraded goods.

Despite this long-run ambiguity, anticipated (as opposed to unanticipated) changes in real exchange rate have a predictable effect on the dynamics of capital accumulation. They provide an incentive for speculative reallocation of investment over time, so they can greatly distort the timing of investments.

In the framework Serven presents, the time profile of investment is related to how financially open an economy is and to the import content of capital goods.

When a real depreciation is expected, an investment boom is likely to develop if the import content of capital goods is high relative to the degree of capital mobility: the anticipated depreciation promotes flight into foreign goods. Conversely, with high capital mobility, the opposite investment pattern is likely to emerge, as the anticipated depreciation promotes flight into foreign assets.

In the first case, the investment boom will be followed by a slump when the depreciation actually takes place, as it amounts to removing a transitory subsidy to investment. In the second case, the predepreciation slump will give way to a boom, since the depreciation amounts to removing a tax.

Such a pattern could lead the uninformed observer to conclude that the real depreciation is "contractionary" in the first case and "expansionary" in the second. In fact, the sharp change in the investment trend could largely reflect the elimination of the transitory (positive or negative) investment incentive. These speculative investment swings will be larger the smaller the adjustment costs associated with capital accumulation.

These results agree broadly with the experiences of Chile and Uruguay in the late seventies and early eighties. The exchange-rate-based disinflation attempted in both countries led to a real overvaluation and growing expectations of real depreciation. Chile — which had a relatively closed capital account and a high import content of investment — witnessed an investment boom. Uruguay, on the other hand, which is financially fairly open, experienced an investment slump.

Similar results apply to consumers' spending on durable goods. These spending fluctuations simply reflect changes in the optimal timing of consumption and investment — but they obviously have a strong destabilizing potential. This suggests the importance of real exchange rate stability to avoid persistent over- or undervaluations. When exchange rate action is justified, it should be undertaken immediately to prevent distortions in the intertemporal allocation of spending.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to study the response of private investment to macroeconomic adjustment measures. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39076 (50 pages, with charts and figures).

563. Empirical Investment Equations in Developing Countries

Martin Rama

Investment decisions in developing countries face some additional constraints than in industrial countries. Analysts must consider such additional factors as financial repression, shortage of foreign exchange, lack of infrastructure, and significant economic instability. Rama suggests a method for improving empirical investment equations in developing countries.

Since the debt crisis, there has been increasing interest in the determinants of investment in developing countries. There is plentiful literature on the topic for industrial economies but existing studies on developing countries are scattered and few.

Rama examined those studies with an eye to answering two questions: Are the variables that influence investment decisions the same in developing as in industrial countries, or should other factors be considered because the macroeconomic setting is different? And what can be learned from the applied research that has been done on the subject?

After revisiting the theoretical debate, Rama presents an integrative analytical framework, including different empirical equations, that depend on the assumptions made about the economies' key features (such as market structure and credit rationing). He classifies 25 empirical studies on investments in developing countries, classifying them according to their chosen specification and comparing their estimates.

Rama concludes that investment decisions in developing countries are not necessarily based on the same variables as in industrial countries. Analysts must consider such additional factors as financial repression, shortage of foreign exchange, lack of infrastructure, and significant economic instability.

In general, the available empirical studies support these arguments somewhat, so their careful introduction into the theoretical models from which investment equation are drawn deserves further research. This is particularly true for the intertemporal aspects of analysis, restrained in Rama's analysis to a simple two-period framework.

With a few exceptions the available empirical studies are not satisfactory, Rama finds. The endogenous variable is seldom scaled, so it probably gathers a time trend. And some key exogenous variables — such as the user cost of capital, the upper bounds on credit, and the availability of foreign exchange — are measured in misleading ways. The measurement issue deserves more research.

Rama stresses the importance of the aggregation procedure when there is significant economic instability. Sudden and dramatic policy changes modify the relevant investment rule. By raising or reducing the share of firms that face credit or foreign exchange rationing, these changes prevent use of a representative-firm approach.

Finally, Rama proposes a method for dealing with the effects on private investment of the economic instability typical in most developing countriApplied research would help decide whether the suggested procedure improves the econometric performance of empirical investment equations in developing countries.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand the behavior of investment in adjustment programs. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Emily Khine, room N11-067, extension 39361 (48 pages, including charts).

564. Costs and Benefits of Agricultural Price Stabilization in Brazil

Avishay Braverman, Ravi Kanbur,
Antonio Salazar P. Brandao, Jeffrey Hammer,
Mauro de Rezende Lopes,
and Alexandra Tan

The welfare gains from reducing risk through agricultural price stabilization are unlikely to be large relative to the welfare gains from price reform that reduces market distortions for the six agricultural commodities considered in this study.

In recent years, agricultural price stabilization policies have been recommended in Brazil as a way to reduce government intervention and open the sector for international trade without internalizing the instability of world prices.

The proposal discussed (and eventually implemented in 1987) was to establish a system of price bands around a moving average of past prices, with the government relying on stocks to defend the bands.

Braverman and his associates evaluated the "band proposal" for six commodities, using historical data and posing this question: what would have happened if price bands had been adopted in the past six to ten years (compared with free trade)? There were two major findings.

First, the implications of adopting a band-rule policy depend heavily on the specific characteristics of the commodities. The results suggest that:

- For edible beans, the band policy benefits producers. Risks associated with this crop are great and the efficiency cost of interventions is smaller than the benefits to farmers in reduced risk. The band rule will not stabilize producers' income, however, and will require an unreasonably high level of stocks.
- For corn, the risk benefits are low. The best alternative for the government may be free trade.
- For rice, free trade hurts producers because it destabilizes income and reduces its mean. But the efficiency cost of current policies (which protect producers) is large. The band rule reduces the cost of risk to producers significantly and its efficiency costs are relatively small.
- For wheat, the current situation is riskier than free trade and large deficits are incurred to support producer prices and to subsidize consumers. The inefficiencies caused by the band rule are larger than the value attributable to reducing risks.
- For cotton, free trade will increase risk. No calculations of the inefficiencies of current policies were made but other studies indicate that they are great.
- For soybeans, the band rule has virtually no effect on price instability, producer revenue, and producer surplus. The same conclusion on instability is seen for soy oil and soy meal.

Second, the welfare gains for risk reduction through agricultural price stabilization are unlikely to be large relative to the welfare gains from price reform that reduces market distortions for these six agricultural commodities.

More research is needed into the macroeconomic implications of price stabilization policies, particularly in countries with unstable but moderate rates of inflation, countries in which agricultural expenditures represent a large proportion of the budget.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to analyze the efficiency and equity implications of agricultural policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (40 pages, including tables).

565. Issues in Socialist Economy Reform

Stanley Fischer and Alan Gelb

Fischer and Gelb define the main components of system reform programs aimed at transforming a socialist economy into a private market economy and sketch an illustrative schedule for such a program for a representative country. The important strategic choices, they say, arise from the interplay between economics and politics.

Fischer and Gelb examine issues involving the design and sequence of economic reform in formerly socialist economies that have made the political decision to move to a private market economy. They also examine the potential role of foreign countries in providing aid, technical assistance, and market access.

In economies that are actually or potentially unstable macroeconomically, the first priority is macroeconomic stabilization and measures to harden budget constraints and create an emergency social safety net.

At the center of the reform process are price reform, trade liberalization, enterprise restructuring, and privatization. Banking reform, training, and the development of other financial markets must begin immediately, but the ability of the financial system to allocate resources efficiently will remain limited until enterprise and price reform are sufficiently advanced.

In systemwide reform, the notion of sequencing should be replaced by that of packaging. A large number of interrelated reforms — including those needed to create an appropriate legal structure and develop the skills needed in a market economy — has to be put in place very early, although the speed of implementation will differ.

However rapidly the reforms are initiated, their completion — especially privatization — is bound to take many years.

This paper — a product of the Socialist Economies Reform Unit, Country Economics Department — is part of a larger effort in PRE to provide a framework for the reform of socialist economies and review experience in a comparative manner. Copies are available free from the World

Bank, 1818 H Street NW, Washington DC 20433. Please contact CECSE, room N6-037, extension 37188 (45 pages).

566. Measuring Outward Orientation in Developing Countries: Can It Be Done?

Lant Pritchett

That alternative objective summary measures of outward orientation produce entirely different country rankings is probably not an astounding revelation. Trade regulations and barriers are generally complex legally and even more opaque in their actual administration. The hope that any reasonably straightforward summary measure could produce a "correct" ranking of countries has always been treated skeptically and — disappointingly — rightly so.

Pritchett tries to move debate on the empirical cross-country relationship between trade policy and economic performance back one step by asking the question. Can the economists' intuitive notion of outwardly oriented policy be captured empirically? Different authors have used different measures as proxies for trade policy stances and generally have come to similar conclusions: that outwardly oriented countries perform better.

Pritchett examines the relationship between four types of empirical measures of outward orientation across countries:

- Share of trade (or imports) in GDP, adjusted for the countries' structural characteristics or factor endowments.
- The average tariff and coverage ratio of nontariff barriers (NTBs).
- Measures of the deviation of countries' actual trade pattern from the pattern predicted from a model of resource-based comparative advantage.
- A measure of real price distortions.

Pritchett finds that these promising candidates for measuring outward orientation are nearly completely unrelated in a cross-country data set. He concludes that he cannot glowingly recommend one measure over another. Nor can any of the candidates be rejected outright. The absence of correlation among them he skeptically interprets as an indictment of each. But that one (but *only* one) of the measures best captures outward orientation cannot be rejected.

He concludes that no reliable, robust estimate of the impact of general outward orientation on economic performance (economic growth or expert performance) is likely to be possible from cross-country data. This is not to say that particular variables, such as the price distortion variable, won't perform well (have a high t-statistic) in explaining cross-country variation in economic performance. But inferring that that type of empirical result is due to the effects of an outward-oriented policy stance requires additional evidence establishing a link between the measure and policies.

Large changes in the NTB coverage ratio in a particular country are more likely to indicate a movement toward import liberalization than similar differences between countries at a point in time, but those relying on the NTB coverage ratio as the key indicator of liberalization must recognize the lack of supporting evidence linking the coverage ratio to observable trade outcomes.

The administrative and legal nature of NTBs makes them an easily monitorable indicator on which to base conditionality in liberalization programs, but the generally discretionary nature of NTB implementation must be recognized, so that the removal of a particular type of legal restriction not be considered synonymous with increased outward orientation.

Data and programs are available from the author.

This paper — a product of theTrade Policy Division, Country Economics Department — is part of a larger effort in PRE to examine the impact of trade policy on overall economic performance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Karla Cabana, room N10-037, extension 37947 (52 pages).

567. Macroeconomic Management and the Division of Powers in Brazil: Perspectives for the Nineties

Antulio N. Bomfim and Anwar Shah

Brazil's new federalism has limited, but not imperiled, the scope of fiscal policy as a stabilization tool. But the federal control over monetary policy has improved.

The federal authority for macroeconomic management in Brazil changed profoundly with the institutional changes that culminated in a new federal constitution in October 1988.

Bomfim and Shah analyzed the implications of the new fiscal arrangements for the federal exercise of macroeconomic policies.

The literature on fiscal federalism stresses that stabilization policies are best carried out by the federal government. So it is interesting to find out to what extent the federal control over macroeconomic management gets diluted in a highly decentralized federation such as the one that now exists in Brazil.

The authors found evidence that the new federalism has limited, but not imperiled, the scope of fiscal policy as a stabilization tool. On the other hand, federal control over monetary policy has improved.

This paper — a product of the Public Economics Division, Country Economics Department — is part of a larger effort in PRE to reform public sector economic management in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (40 pages).

568. Higher Wages for Relief Work Can Make Many of the Poor Worse Off: Recent Evidence from Maharashtra's "Employment Guarantee Scheme"

Martin Ravallion, Gaurav Datt, and Shubham Chaudhuri

Guaranteed employment can be valuable insurance against poverty. But the recent experience in Maharashtra suggests that raising the wage rate when you don't have the budget to pay for it is not in the interests of all the poor. Some get higher pay, but others must go without relief work.

Relief work schemes provide well-targeted relief to poor people, and valuable insurance against poverty. But their success may depend on the scheme's design —

particularly the wage rate and coverage offered.

The most famous and one of the most successful of these programs is the Employment Guarantee Scheme (EGS) that has been in operation since the mid-1970s in the Indian state of Maharashtra. In a typical year it provides about 100 million person-days of unskilled employment on rural infrastructure projects, at an average cost of about one dollar a day in the late 1980s. The demand for EGS work fluctuates enormously from year to year (depending on the vagaries of the monsoon) and across seasons in a given year.

In mid-1988 the piece rates paid to workers on EGS doubled, in line with new statutory minimum wage rates for agricultural labor. Ravallion, Datt, and Chaudhuri investigated the effects of this sudden increase on the scheme's cost, the workers' wages, and their ability to find work when needed.

They found that the impact of the wage increase on real cost was dampened by inflation, adjustments in the composition of work, and, most important, by falling employment. The aggregate real cost per month fell after the increase in wage rates. This partly reflected good monsoons but, controlling for monsoons, there are signs that falling employment reflected rationing; some poor people who wanted relief work could not get it.

Ravallion, Datt, and Chaudhuri found that EGS met less than half of the demand for work after the wage increase and that almost all of the fall in EGS employment was from rationing. The effects of the initial wage increase on the poor are ambiguous: some could get higher wages but others went without desired relief work.

The concept of assured employment, albeit at a low wage, can be attractive in terms of poverty alleviation: it generally allows scarce resources to go to the poorest first (at least those able to work), it maximizes the insurance benefits to the poor, and it helps undermine some of the possibilities for corruption on such schemes — and for exploitation in labor markets and tenancy contracts.

But achieving these benefits with limited budgetary resources requires a low enough wage rate. The recent experience in Maharashtra suggests that imposing a higher wage rate when you don't have the budget to pay for it is not in the interests of all of the poor.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to research the performance of poverty alleviation schemes and the implications for policy design. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-039, extension 30464 (36 pages).

569. Domestic Purchase Requirements for Import License Allocations in Mali

Wendy E. Takacs

To obtain import licenses for sugar and tea, prospective importers in Mali were required to purchase a certain amount of domestic output. The efficiency of this kind of arrangement relative to that of a direct trade restriction such as a tariff depends on the policy's objective and whether the protected industry is competitive or a monopoly.

The government of Mali, as part of its trade liberalization program, substituted an import licensing system for the state trading agency that had held import monopolies on a number of products. To get licenses to import sugar and tea, prospective importers were required to purchase given amounts of domestic output. The volume of imports was thus "linked" to domestic output of the imported products.

Takacs investigates the economic impact of these linking arrangements under two domestic market structures: perfect competition and monopoly. The arrangements have an effect equivalent to that of a tariff when the tariff revenue is transferred to the domestic industry as a subsidy. The cost of these linking arrangements to the country imposing them may be greater or smaller than the cost of tariffs, depending on the policy's objective and the structure of the protected industry.

If the protected industry is competitive, linking arrangements are less costly than tariffs if the objective is to increase domestic production or maintain a given degree of self-sufficiency (defined as maintaining a particular ratio of imports to domestic production). The reverse may be true if the protected market is a monopoly.

Price controls on the products subject to linking arrangements dilute the effectiveness of the arrangements and cause disequilibrium in the market between distributors and consumers. Removing price controls before the linking arrangements in a liberalization program would drive up prices for both consumers and producers, provide false signals, and possibly increase the costs of adjusting to liberalization.

This paper — a product of the Trade Policy Division, Country Economics Department — was prepared as background material for the joint UNDP/World Bank Trade Expansion Program, which provides technical and policy advice to countries wishing to reform their trade regimes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-035, extension 37947 (25 pages, including figures).

570. Debt Concentration and Secondary Market Prices

Raquel Fernandez and Sule Ozler

The more concentrated the debt holdings in large money center banks, the higher the secondary price of that debt.

Using a model that distinguishes between large money center banks and smaller regional banks, Fernandez and Ozler show that the percentage of a country's debt held by the large banks affects the secondary market price of that country's debt: the higher the concentration of the debt, the higher the secondary market price.

They also show that if debt is freely traded in the secondary market, the entire stock of debt will not eventually end up being owned by the large banks.

Their empirical analysis incorporates several potential determinants of secondary market prices: variables associated with a country's economic performance, variables that can be associated with the creditor country's regulatory structure, and the concentration of debt in the hands of the largest U.S. banks.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to analyze the benefits and costs of voluntary market-based debt and debt service reduction operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (47 pages, including tables).

571. Credit's Effect on Productivity in Chinese Agriculture: A Microeconomic Model of Disequilibrium

Gershon Feder, Lawrence J. Lau, Justin Y. Lin, and Xiaopeng Luo

Not all farmers — sometimes only a minority — are constrained in their farming operations by inadequate credit. And part of formal credit is diverted to consumption so the effect on output of greater supplies of formal credit might not be as large as one would expect if one assumed that it would all be used productively.

Many government programs want to provide more credit to the farm sector to increase agricultural productivity. If the marginal effect on productivity is small, those resources might be put to better use elsewhere.

Feder, Lau, Lin, and Luo conducted an econometric analysis of the effect of credit on output supply which recognizes that credit markets are not necessarily at equilibrium — so that credit rationing (with unsatisfied demand) and nonborrowing (when credit could be available) are both possible. Only about 37 percent of the farmers in the study area were constrained by inadequate formal credit. Informal credit sources provided funds for specific non-agricultural activities that were not fungible.

The results indicate that one additional yuan of liquidity (credit) yielded 0.235 yuan of additional gross value of output. These results suggest that for the area of China covered in the study, a good part of the short-term credit may actually be used for consumption and investment. Indeed, medium- and long-term formal credit is practically nil among the agricultural households in the study area. Rolled-over short-term credit is sometimes used for small-scale investments. The diversion of short-term credit for farm investment is about 40 percent for an average household in the study area. This implies that almost a third of the formal credit is used for consumption (of current goods or durables).

What conclusions does this suggest in evaluating the probable effect of expanding agricultural credit? First, not all farmers, and sometimes only a minority, are constrained in their farming operations by inadequate credit. And second, greater supplies of formal credit will be diverted in part to consumption, so the likely effect on output will be smaller than what one might expect if all funds are assumed to be used productively.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — is part of a larger effort in PRE to evaluate agricultural credit policies and review institutional designs so as to formulate better guidelines for Bank activities in rural credit. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cicely Spooner, room N8-035, extension 30464 (27 pages).

572. Capital Positions of Japanese Banks

Edward J. Kane, Haluk Unal, and Asli Demirgüç-Kunt

Japanese banks are highly capitalized in terms of market value. Here is a method for testing hypotheses about determinants of two types of hidden capital in Japanese financial markets.

Japanese banks are promising sources of capital for developing countries wishing to finance a balance of payments gap. Kane, Unal, and Demirguc-Kunt show that Japanese banks are highly capitalized in terms of market value; much of their capital is "hidden capital," the divergence between accounting and stock market estimates.

Kane and associates developed a method for testing hypotheses about two types of hidden capital: the misvaluation of on-balance-sheet items (post-acquisition gains and losses that, although they remain unbooked, are bookable upon the sale of the item under General Accepted Accounting Principles (GAAP)) and intangible values that GAAP currently designates to be unbookable off-balance-sheet items.

They construct a model that explains changes in both types of capital functions of holding-period returns earned in Japan on stocks, bonds, yen, and real estate. They apply the model to annual data for 1975-89 and a four-class size/charter partition of the Japanese banking system. For each type of hidden capital and each class of bank, the model develops estimates of the stock market, interest rate, foreign exchange, and real estate sensitivities of returns to bank stockholders.

Only the stock market sensitivities prove significant, at 5 percent. Time-series regressions show that the large Japanese banks have developed stock market betas over two and that the value of the bank's beta has come to increase with measures of its size and accounting leverage.

Future research will investigate the sensitivity of these results to different ways of pooling data from individual banks and to more sophisticated methods for estimating various parameters. They also plan to extend the analysis by imbedding it in a model of how variations in bank-customer contracting arrangements in Japan affect the returns bank stockholders can earn.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to study alternative sources of external finance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 33730 (35 pages).

573. Malaysian Labor Markets Under Structural Adjustment

Dipak Mazumdar

In a generally healthy economy, Malaysia's labor market suffers some structural problems: steep wage-seniority scales, unemployment among secondary-school leavers, and an almost bizarre constancy in the relative differences in earnings (and ever wider differences in per capita income) between states — which suggests a serious problem in the sharing of fruits of economic *growth through internal migration of the factors of production.*

Malaysia's sustained growth in the 1970s was boosted by windfall gains during two oil price hikes plus a commodity boom. Oil and commodity prices fell in the 1980s and Malaysia, an oil exporter, bungled into a rather severe depression in 1985-86. But it recovered quickly, to the surprise of some — and growth resumed in 1987.

The events that led to the recession and quick turnaround are a Southeast Asia prototype. Mazumdar analyzes the key relationships in this cyclical behavior. He then focuses on long-term labor market issues of interest during the economy's 20-year transformation. He concludes:

Events in Malaysia differed in important details from the standard sequence in "Dutch disease" models. The real exchange rate appreciated not because of more spending but because of the inflow of foreign capital to support the government's budget deficit. And the increase in average wages in the period leading up to the recession was not corrected with the rise in the domestic exchange rate (the ratio of the prices of nontradables to tradables) in a fully employed economy.

Wages increased more than labor productivity did at a time when employment growth had slowed and the rate of unemployment had risen. This perverse behavior may be attributable to certain East Asian labor market institutions — notably steep wage-seniority scales and the attachment of workers to firms after a period of service.

Rising labor costs were only part of the problem of rising costs before the recession. The whole package of fiscal, monetary, and exchange rate policies — together with labor market behavior — led to the recession.

And the recession was short-lived — no more than two years long. Factor markets were highly flexible: wages, interest rates, and exchange rates all drifted downward. This "collapse" of factor markets fueled the recovery when favorable trends reasserted themselves in Malaysia's external markets.

Mazumdar further concludes that:

- Plantation wages (especially rubber) lagged somewhat behind wages in manufacturing but the overall growth rate of real wages in the formal sector was positive, before the slowdown of the 1980s.
- Paddy farmers and smallholder cash-crop growers had significantly lower earnings in 1973 than nonagricultural employees (rural and urban) and estate employees — and their relative position has declined even further.
- The tertiary sector increased its share in total employment from 36 (1970) to 49 (1980) to 55 percent (1987), and government employment accounted for only part of this growth.
- The self-employed are only a small part (15 percent) of the work force in manufacturing but more than a third of the total in agriculture and distribution.
- Growth in white-collar jobs has not kept pace with growth in education, so there has been a problem of unemployment among the educated. Not all secondary-school leavers would accept blue-collar jobs. This type of white-collar unemployment is structural — not responsive to changes in demand, unless as in the latter half of the 1970s the boom is sustained and intense (perhaps favoring the white-collar sector).
- Relative earnings for women improved in striking ways in 1970-87.

This paper — a product of the Studies and Training Design Division, Economic Development Institute — is part of a larger effort in PRE to understand the role of labor markets in the process of structural adjustment of the economy. The paper is one of the country studies prepared for the project on "Labor Markets in an Era of Structural Adjustment." Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Marshall Schreier, room M4-013, extension 36432 (72 pages, including figures and tables).

574. Public Policies and Saving in Developing Countries

Vittorio Corbo and Klaus Schmidt-Hebbel

Developing countries can increase their national saving rate best by increasing government saving. The most effective way to increase national saving is through a permanent tax hike, a cut in current public spending, and a macroeconomic framework in which inflation is low and incentives are predictable.

Corbo and Schmidt-Hebbel analyze the effectiveness of public policy in raising saving in developing countries, drawing on estimates of consumption functions for 13 developing countries. First, they provide evidence from time-series and panel data on how liquidity constraints affect consumption functions. This suggests that a rise in public saving does not produce an equal reduction in private saving.

Second, they present direct evidence of the link between private consumption and government saving — based on a more general consumption specification implemented for 1980-87 country panel data. These show that indirect effects of public policies on private saving — through changes in domestic inflation and real interest rates — are negligible. But cuts in current public spending and current tax hikes significantly affect private savings.

Increasing public saving by cutting current-period public expenditures by $1 reduces private saving by only 16 to 50 cents. Permanent cuts in public spending reduce private saving by 47 to 50 cents.

Not surprisingly, a higher permanent tax hike has less of an effect on private saving than a transitory tax hike. For each $1 increase in permanent taxes, private saving declines only 23 to 26 cents. Increasing only current-period taxes reduces private saving between 48 and 65 cents.

Increasing taxes and improving tax compliance are the most efficient ways to reduce public deficits when traditional tax revenue is low and inefficient tax levies (such as the inflation tax) are high and widespread. Finally, public policy can help raise private savings and make their use more efficient by providing a macroeconomic framework in which inflation is low and incentives are predictable.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to improve the understanding of the transition from adjustment to growth. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Susheela Jonnakuty, room N11-039, extension 39074 (29 pages).

575. Household Saving in Developing Countries: First Cross-Country Evidence

Klaus Schmidt-Hebbel, Steven B. Webb, and Giancarlo Corsetti

Disposable household income is the major factor affecting the savings rate. Households save more of their income when that income is higher and when it is growing faster. They save less when they start the period with greater liquid wealth.

Schmidt-Hebbel, Webb, and Corsetti use time-series household data from 10 developing countries for which at least eight consecutive years of data exist, to test several hypotheses about saving behavior.

The surprisingly strong results of this study — considering the few countries in the sample — verify the value of using household data, but results should be checked with a larger sample when more data become available.

The authors test how household saving in developing countries responds to: the level of disposable per capita income; the growth rate of disposable income and its deviation from trend; real liquid wealth at the start of the period; the real interest rate; the inflation rate; foreign saving; government transfers to households; and some demographic variables. The results suggest the following:

- Income and wealth explain most of the variation in household savings rates. Households save more of their income when that income is higher and when it is growing faster.
- They save less when they start the period with greater liquid wealth, although wealth reduces saving less than one-for-one. (A one-percentage-point increase in the money supply as a share of income reduces the saving rate an average of one-fifth of a percentage point.)
- Real interest rates do not encourage saving in the countries in this sample. This is particularly true when one controls for liquid wealth. Households with substantial wealth are likely to reduce their saving rate in response to higher interest rates because in their case the substitution effect of higher interest rates is dominated by the wealth effect.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to study the macroeconomic determinants of growth in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Emily Khine, room N11-069, extension 39361 (26 pages).

576. Lessons from Tax Reform: An Overview

Wayne Thirsk

More administrative simplicity (making avoidance and evasion difficult) and horizontal equity (uniformly imposed across units at the same income level) are strong selling points for tax reform. Harder to sell are more economic efficiency (not well understood by the public) and vertical equity (a matter of personal judgment).

Thirsk identifies general lessons about tax reform, drawing on ten developing countries' experience: Columbia, Indonesia, Jamaica, Korea, Mexico, and Turkey (which have carried out comprehensive tax reforms) and Bolivia, Malawi, Morocco, and Zimbabwe (which are currently reforming their tax systems).

Research for each country study focused on which policies and procedures worked reasonably well (or didn't), using four standard public finance criteria: revenue adequacy, allocative neutrality, equity, and the efficiency of tax administration.

The goals of tax reform are more modest but realistic than they once were. Simpler tax rules ignore the fine distinctions that equity demands but serve the broader interest of tax equity by encouraging fuller compliance with tax laws and making their evasion more difficult. Less emphasis is placed on redistributing welfare through the tax system and more on achieving the goals of revenue adequacy, economic neutrality, and simplifying the tax system to make it conform to administrative capabilities.

Common elements in successful tax reform include:

- A clear perception of the flaws in tax systems before reform and a well-thought-out program of action to correct them.
- The support of major policymakers and technocrats.
- Careful, systematic implementation and monitoring.
- Minimal use of tax incentives and more reliance on broader, simpler tax bases on which lower marginal rates are imposed.
- Efforts not only to avoid raising taxes on the poor but to reduce their tax burden.
- Avoidance of procedural demands that overwhelm tax administration capabilities, and investment of more resources in training and in upgrading administrative performance.
- Attention to revenue adequacy and to how different components of the tax system interact.
- Direct targeting of tax measures mainly, if not exclusively, to their intended objectives.
- Emphasis on the importance of horizontal equity, neutrality, and simplicity.
- Recognition that accepting crude justice in taxation is better than fine-tuning in the search for the unattainable goal of perfect justice.

Successful tax reforms share common structural elements. For indirect taxes, countries often use value-added tax to replace a hodge-podge of commodity taxes, thus producing more revenues and fewer disincentives for exports and investment. Typically, foodstuffs are exempted to protect the poor, excise taxes are redesigned to fall more heavily on luxury items, and trade and domestic taxes are better coordinated.

Personal and corporate income taxes are typically modified so lower tax rates are applied on a broader base. Personal income taxes are expanded so that fringe benefits are more heavily taxed, deductions and exemptions are consolidated, and more use is made of presumptive levies for certain hard-to-tax groups. No trend is discernible toward replacing income taxes with cash-flow or expenditure-related taxes.

To curb corporate tax evasion and achieve more uniform tax burdens, some countries employ minimum taxes on a company's net worth.

Many elements of capital income escape taxation altogether or are only partly captured in the tax base. Few countries successfully tax capital gains, for example. And interest income is often exempted or taxed at a low rate out of concern for capital flight.

This paper — a product of the Public Economics Division, Country Economics

Department — is part of a larger effort in PRE to document and understand how developing countries may improve the performance of their tax systems. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ann Bhalla, room N10-059, extension 37699 (52 pages).

577. Africa's Rising Inflation: Causes, Consequences, and Cures

Ajay Chhibber

Is there a link between devaluation and high inflation? It depends on accompanying monetary and fiscal policies and the presence of parallel markets. An open capital account would curtail fiscal profligacy and provide price stability without jeopardizing growth.

Chhibber empirically assesses inflation in Africa using various price indicators and examines the major instruments of anti-inflationary policy in Africa. He sets up a generalized model of inflation and examines four special cases of that model, representing four prototypical African policy regimes:

(1) Countries with pegged exchange rates, an open capital account, and no price controls (the 13 countries of the CFA franc zone).

(2) Fixed-but-adjusting exchange rates, with a closed capital account and selective price controls (as in Zimbabwe, Malawi, and Kenya).

(3) Fixed-but-adjusting exchange rates with widespread parallel markets, a closed capital account, and selective price controls (as in Ghana, Nigeria, Tanzania, and Zambia).

(4) Dual exchange rates and a closed capital account, but with extensive, effective price controls (as in Algeria and Ethiopia).

Drawing on results from empirical studies, Chhibber focuses especially on the interaction of exchange rate policy and inflation. He concludes, among other things, that:

• At first glance, there seems to be a strong correlation between exchange-rate regimes and inflation. Countries with floating exchange rates (or auction systems) seem to have experienced higher inflation and countries with fixed exchange rates lower inflation. But the story is more complex than that.

• In such countries as Ghana, Sierre Leone, Uganda, and Zambia, high inflation prevailed before exchange reforms, even when the exchange rate was fixed. High inflation rendered the official exchange rate irrelevant, and parallel markets emerged. Adjusting the official exchange rate may actually have lowered inflation in Ghana by reducing fiscal deficits. High fiscal deficits, financed primarily by creating money, were the underlying cause of inflation.

• The reason for lower, stable inflation in countries with pegged exchange rates is the underlying monetary and financial arrangements, not the fixed exchange rate. The open capital account between countries of the franc zone ensures that the money supply is not a policy variable. Domestic expansion of credit affects the balance of payments but does not lead to inflation and money expansion.

• The key to price stability lies in providing checks on large fiscal deficits and noninflationary mechanisms for financing them. In principle, this can be done through responsible spending and revenue policies. In practice, it requires institutional arrangements that restrain profligate spending. An open capital account is one such mechanism (witness Indonesia). Another is effectively to separate monetary and fiscal policy, either by joining a monetary union (like the CFA franc zone) or by establishing and managing a central bank with the (fiercely protected) independence of the U.S. Federal Reserve System and with a status equal to the judicial system.

• The benefit of joining a monetary system is price stability — but the costs are high. The best option is to control fiscal and monetary policy without the rigidity of a fixed, pegged exchange rate. The path that countries such as Indonesia have followed — through the open capital account — provides price stability without jeopardizing growth.

This paper — a product of the Office of the Vice President, Development Economics — is part of a larger effort in PRE to study inflation and price decontrol in Africa. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Bilkiss Dhomun, room S9-041, extension 39413 (26 pages).

578. The Bank's Use of Technical Assistance for Institutional Development

Beatrice Buyck

Whenever the Bank identifies shortcomings in institutional capability, technical assistance is automatically assumed to be the appropriate response. But technical assistance has, and will continue to have limitations — and there are alternatives.

Technical assistance (TA), including project-related training, is the principal instrument the Bank uses to promote institutional development (ID).

Buyck reviews trends in ID-related TA for FY1982-88 and examines why there is little evidence of improvement in its use, despite the recommendations in many past studies and reviews. She identifies the minimum requirements for successful ID-related TA, and gauges whether the Bank is equipped to take on the challenge of improving it, or should consider other ways to promote ID.

She contends that the Bank labors under serious built-in handicaps as a supplier of ID-related TA. These include:

• The neglect of in-depth country knowledge and a poor institutional memory, both attributable to the frequent rotation of staff.

• A high degree of centralization in the control of operations from Washington.

• The priority the Bank attaches to capital lending and to the preparation of projects rather than their supervision.

• The high cost of Bank TA to some borrowers, compared with TA extended by many bilateral donors on a grant basis.

• The Bank's blueprint approach to project design and implementation.

• The absence of systematic, explicit attention to the issue of government commitment in Bank work, a prerequisite for successful ID-related TA.

She also argues that compared with traditional Bank projects and economic and sector work, ID is a relatively new and particularly complex area of Bank work. As a result, the body of knowledge is still quite limited, and there are few best-practitioners.

She suggests that the Bank be more discriminating in its use of ID-related TA, limiting it to cases where the government's commitment is clearly demonstrated and where there is an institutional base on which to build.

But the Bank should also consider alternative routes to ID. When shortcomings in institutional capability are identified, TA is automatically assumed to be the appropriate response. But excessive reliance on TA to solve ID problems raises false expectations. TA has and will continue to have its limitations.

In countries where there is still a genuine demand for Bank-financed ID-related TA, several things can be done to improve the Bank's performance. Buyck argues that it is unrealistic to expect a change in the Bank's lending policies and practicies, and a substantial increased resource allocation for TA. In the absence of such changes, these are some of the actions she suggests:

- Country-wide ID strategies should be developed.
- Projects should be designed in a participatory manner responding to genuine needs and capacity of the borrower.
- Institutional analysis of the recipient agency is needed, including country commitment.
- Projects should be designed for flexible implementation, with clear objectives. A series of verifiable performance indicators should be defined.
- More thought should be given to the packaging and delivery of ID-related TA — for example, by integrating short-term consultants and long-term technical assistants.
- Operational staff should systematically compile and exchange information on consultants used for ID-related TA, including frank evaluations of their performance.
- Practical guidelines and project implementation manuals should be prepared for Bank staff working on these areas.
- More use should be made of the Bank's field offices. For example, to list local consultants, monitor the performance and progress of ongoing projects, and coordinate TA financed by the Bank with that provided by bilateral donors.
- Cross-fertilization and dissemination of best practice are needed for staff working on these areas.
- The conceptual and methodological base for ID-related TA needs to be expanded.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — was prepared as background for the division's December 1989 conference on institutional development. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37496 (89 pages).

579. Chile's Experience with Stabilization, Revisited

Vittorio Corbo and Andrés Solimano

The cost of stabilization in chronic-inflation countries is high, whether it is paid up front (with fiscal shock) or delayed (in exchange-rate-based stabilization). And eliminating the fiscal deficit is a necessary but not a sufficient condition for controlling inflation. The breaking of inertia calls for a coordination device in the transition toward price stability

Corbo and Solimano evaluate Chile's stabilization policies since the early 1970s, examining four episodes:

- The high inflation at the beginning of the military regime, when inflation was close to 800 percent a year.
- The orthodox stabilization program of 1975.
- The exchange-rate-based stabilization of February 1978-June 1982.
- The post-1984 adjustment period with a large real devaluation and moderately low inflation.

The last 15 years of Chile's economic history provide some important lessons on stabilization. Corbo and Solimano learned that:

- Eliminating the fiscal deficit is a necessary but not a sufficient condition for controlling inflation. In economies with a long history of inflation, credibility problems, and indexation schemes (de facto or de jure), inertia is likely to make inflation stabilization costly without income policies to solve the coordination problem implicit in guiding individual wage and price setters toward a low-inflation equilibrium.
- If the exchange rate is used as an anchor in a stabilization program, other nominal prices should be free or fixed with reference to the exchange rate. Otherwise, key relative prices such as the real exchange rate and the real interest rate could move into disequilibrium positions, making the macroeconomic situation unsustainable. The dynamics of disinflation matter a great deal in the design of the stabilization plan. The convergence toward a low-inflation equilibrium could be a slow process.
- The cost of stabilization is high, whether it is paid for up front (as it was in the 1975 program, when real wages, output, and employment were cut) or when it is delayed (as it was after Chile's boom in the crisis of 1982-83, when the current account deficit had to be corrected). Different programs (fiscal shock versus exchange-rate-based stabilization) distribute the costs of stabilization differently over time.
- The post-1984 experience illustrates that well functioning goods markets, a competitive real exchange rate, restoration of basic macroeconomic balance, and favorable terms of trade contributed significantly to restoring non-inflationary growth in Chile.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to understand stabilization policies in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Emily Khine, room N11-061, extension 39361 (52 pages).

580. Do Natural Resource-Based Industrialization Strategies Convey Important (Unrecognized) Price Benefits for Commodity-Exporting Developing Countries?

Alexander J. Yeats

Because of a relative shift from primary commodity exports to more processed commodities between the 1960s and the 1980s, most developing countries have experienced less instability in export earnings for agricultural materials, ores, and metals — and more favorable long-term price trends.

Developing countries have long had two main objectives in terms of commodity exports: to reduce instability in exporters' earnings and importers' prices through international (buffer stock) agreements and to encourage more processing of domestically produced commodities by developing countries.

Little attention seems to have been paid to possible connections between these objectives. If processed commodities are traded in markets that are generally more stable, for example, and if these items experience more favorable longer term price trends, might a natural resource-based industrialization strategy not convey important (unrecognized) price benefits for commodity-exporting developing countries?

And if a significant number of developing countries are shifting their composition of exports toward processed commodities — and if the markets for these items are less unstable — could this not alter the priority attached to negotiating commodity price stabilization agreements?

Using the World Bank's commodity-processing classification scheme, Yeats shows that a major structural shift in commodity trade occurred between 1965 and 1987. Almost all regional groups of developing countries shifted from primary commodity exports to more processed commodities — except for foodstuffs — and this change was reflected to varying degrees in all major developed-country import markets.

But the developing countries actually responsible for the further processing (such as the Asian NICs) were often not major producers of the primary (unprocessed) commodity. This suggests that internal constraints on commodity processing may often be more important than such external barriers as escalating tariffs.

The shift has generally reduced instability in export earnings for agricultural materials, ores, and metals — and to a lesser extent for foodstuffs — and has resulted in more favorable long-term price trends.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to analyze and predict important structural changes in world trade as well as to identify factors affecting developing countries' export earnings. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Jean Jacobson, room S8-037, extension 33710 (30 pages).

581. How Successful Is World Bank Lending for Structural Adjustment?

Patrick Conway

For a sample of 75 countries during the period 1976-86, there is a significant association between participation in a World Bank adjustment lending program and more rapid economic growth, a more positive current account as a percentage of gross national product (GNP), and a higher rate of domestic inflation.

To measure the effectiveness of the World Bank's structural adjustment programs, Conway examines the data on actual economic performance for 75 countries for the period 1976-86.

He finds a clear association between participation in a World Bank adjustment lending program and cross-country differences in economic performance and policy. Countries that participated in adjustment lending programs tended to have the following characteristics, compared with countries that did not participate in such programs:

- More rapid economic growth
- More rapid inflation
- A less negative current account balance as a percentage of GNP
- Deeper financial sectors
- A lower ratio of current government spending to GNP
- Depreciation of the real exchange rate.

The first three indicators reflect differing performance; the second three, different policy mixes. In other words, the countries have not benefited merely by increased financing at the margin but have also undertaken significantly different economic policies.

Conway speaks of the association and correlation, not causes. No components of adjustment lending programs are singled out for praise or blame. The atheoretic methodology he uses does not identify causal links between bank adjustment programs and these measures, and provides no means of separating the effects of Bank lending from other factors. The adjustment lending programs were often concurrent, for example, with IMF stabilization policies, so to that extent the correlations are measures of the joint impact of the two.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to measure the effectiveness of structural adjustment efforts, especially trade reform, in developing countries. It includes both this empirical analysis and other research identifying possible causal links between policy and performance. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-035, extension 37947 (31 pages).

582. Adjustment Programs and Bank Support: Rationale and Main Results

Vittorio Corbo and Stanley Fischer

Adjustment should begin with policy and institutional reforms to deal with the ultimate causes of any macroeconomic crisis a country is experiencing. Only when progress has been made in reducing inflation and fiscal and balance of payments deficits should other structural reforms begin — of the public sector, trade and competition, the financial sector, and the labor market.

Corbo and Fischer review the rationale for programs and then evaluate the design, implementation, and effectiveness of Bank-supported adjustment programs. Among lessons they draw from this review of the programs are the following:

- In countries experiencing acute macroeconomic imbalances (high fiscal deficits, balance of payments crises, and high open or repressed inflation), adjustment should start with policy and institutional reforms to deal with the ultimate causes of the macroeconomic crisis. Once progress has been made in reducing inflation and the fiscal and balance of payments deficits, other structural reforms aimed at improving resource allocation and achieving sustainable, equitable growth should be tried (particularly reform of the public sector, trade and domestic competition, the financial sector, and the labor market).
- The Bank can help adjustment by giving both policy advice and finance and by mobilizing other sources of finance.
- Adjustment lending has a positive effect on growth, constant-price export rates, and saving rates, and a negative effect on the investment ratio. In the

short run it does not appear to affect systematically changes in living conditions.

• The implementation rate of programs increased in the 1980s, both for countries that received adjustment loans since the early 1980s and for those that started more recently. Implementation rates are lower for countries with higher rates of inflation or that suffered heavier negative external shocks. Successful stabilization and appropriate adjustment to external shocks (including contingency financing) increase the implementation rate.

• To be successful, an adjustment program must be owned by the government. External financing alone won't work. It is important to diagnose the country's development problems and to build a consensus around the adjustment program.

• Political support for stabilization is more likely when the government actively explains the source of the problems the program addresses, how it plans to tackle them, why this is the best option, and how people will benefit from the new policy environment. Awareness of the economic problems that motivate the decision for reform is strongest at the beginning — so prompt implementation usually increases the chance of political support.

• Adjustment usually calls for reducing public spending but it is important to strengthen public institutions through improved policies, organization, and management.

• The ultimate success of adjustment depends not only on getting the right policies in place but on increasing investment — including efficient public investment, saving, and growth. Public policy can contribute to these objectives by mobilizing savings and providing a macroeconomic framework that supports investment and efficient growth.

This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — was prepared for presentation at the Conference on Policies for the Recovery of Growth: Adjustment Lending Revisited, held at the World Bank on September 13-14, 1990. It is part of a larger effort in PRE to improve the understanding of the role of policies in economic performance. When the first draft was written, Fischer was Vice President, Development Economics and Chief Economist of the World Bank. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lu Oropesa, room N11-035, extension 39075 (36 pages).

583. World Bank Lending for Education Research, 1982-89

Marlaine E. Lockheed and Alastair G. Rodd

Since 1982 about $98 million — 2.2 percent of Bank lending for education, in 116 projects — has been allocated to research. But many Bank-financed educational research components are not completed, or if completed are not widely available — or even listed. And few (5.6 percent) measure educational outcomes.

Research on education is useful for policy change, helps build national research capabilities, and yields information on interventions of use to others — borrowers and donors.

But many Bank-financed educational research components are not completed, or if completed are not widely available, and few measure educational outcomes.

In taking stock of research components in education projects, J.P. Tan (1982) found that 122 Bank projects in education (1972-82) contained 272 studies. Tan noted that these studies were seldom available to audiences beyond their original sponsors and were often not available even to them, and that many planned studies were never initiated or completed. Many of those studies were longitudinal in design so some thought the attempt to identify completed research may have been premature.

Lockheed and Rodd reviewed education studies (1982-89) and traced the completion status of studies that were incomplete before 1982. They found that:

• Of 146 Bank education projects initiated since 1982, 116 included research components with 436 identifiable, planned studies. These 116 projects were supported with loans and credits of about $4.5 billion, of which about $98 million (or 2.2 percent) was allocated to research.

• Research as a percentage of total loan commitment declined sharply from 1982 to 1989.

• Of the 436 planned studies, only 184 (42 percent) were completed, 84 were available through Regional Information Centers, and only 5.6 percent had anything to do with assessing educational outcomes.

• Anecdotal evidence suggests that research components have often been included as a form of "slush fund" to provide a financial buffer for other areas, drawing down resources available for study activities. Similarly, studies are included for political reasons, to develop in-country discussions on divisive issues or to resolve policy negotiation deadlock. Few studies enhance domestic research capacity.

Lockheed and Rodd conclude that:

• More attention should be paid to the design and implementation of research components in education projects, with specific emphasis on institutional weaknesses.

• Freestanding educational research projects should be considered wherever possible (usually in large countries).

• The Bank should develop a training program for operational staff to design studies with appropriate methodologies and which develop domestic research capacity.

• Information on studies should be more accessible. All data and documents about studies should be sent to Regional Information Centers, which should provide a list of information received to the Education and Employment Division, Population and Human Resources Department. Project completion reports should list studies in bibliographies.

This paper — a product of the Education and Employment Division, Population and Human Resources Department — is part of a larger effort in PRE to build education research and assessment capacity in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Cynthia Cristobal, room S6-214, extension 33640 (91 pages).

584. Whither Hungary and the European Communities?

Alfred Tovias and Sam Laird

Hungary stands to gain considerably from an improvement in its standing in the EC pyramid of privileges. Membership in the EC could lead to an expansion of Hungarian exports to the Community of some 48 percent, with the main gains in meats, iron and steel, fruit and vegetables, tex-

tiles, and clothing.

Recent political changes in Eastern Europe are leading to closer economic relations between its countries and the EC. Hungary has been granted GSP status by the EC and, with some important exceptions, quantitative restrictions on its exports to the EC will be progressively eliminated.

Further improvement of Hungary's access to the EC market faces three main challenges: the full integration of Spain and Portugal in the EC, unification of Germany, and completion of the EC's internal market in 1992. The inclusion of Spain and Portugal in the EC is likely to stiffen the competition for Hungary's exports to the EC. After German unification, the former GDR — an important market for Hungary — will apply EC measures, and its goods will compete with Hungary's exports on more favorable terms in the rest of the EC. Under EC-92 the reduction of internal barriers will likely cause diversion of trade to other EC suppliers away from non-EC suppliers, by 5-7 percent on average according to the EC's calculations. New regulations and norms will have both positive and negative aspects for Hungary.

The continuing economic problems of Eastern Europe, including the Soviet Union, suggest that Hungary has little alternative but to seek even closer ties with the EC. But Hungary faces important supply constraints and will need an infusion of new technology and physical capital to take advantage of its position on the doorstep of the EC. Hungary has been examining the options of applying for EC membership. It has also considered applying for European Free Trade Association (EFTA) membership — possibly as an interim step toward EC membership — but this seems unlikely to be accepted by the EC, and obtaining EFTA membership would not be easy. EFTA membership would have distinct advantages because the EC/EFTA Protocol allows for virtually free trade in manufactures between the two blocs. Barring EC or EFTA membership, some form of association might yet be broached — along the lines of the EC's special relationship with Turkey, Yugoslavia, and other Mediterranean countries.

Tovias and Laird examined the potential trade effects of such different relationships between the EC and Hungary, including in the context of possible outcomes of the Uruguay Round. Their simulations confirm the importance of an exporter's place in the EC's pyramid of privileges. Membership in the EC could lead to an expansion of Hungary's exports to the EC of some 48 percent, with meats, iron and steel, fruit and vegetables, textiles, and clothing being the main sectors to gain, in declining order. This results from setting tariffs at zero and eliminating non-tariff barriers. Membership in the EFTA would lead to only a 15 percent expansion of exports to the EC, and obtaining the same preferential tariff treatment as the Mediterranean countries would lead to a 10 percent increase. GSP treatment is projected to expand exports by 6 percent. The authors superimposed their Uruguay Round scenarios on these preferential positions and found that the export gains from EC membership are reduced to 43 percent — as EC barriers are reduced for all countries. EFTA membership and the same treatment as other Mediterranean and GSP countries are somewhat better for Hungary than non-Uruguay Round scenarios, because under these scenarios the authors allow for some reduction in non-tariff barriers in agriculture and in the textile and clothing sectors, which more than offsets the relative decline in preferential tariff treatment. Only minor losses to Spain and Portugal would result from improved access to the EC for Hungary.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to analyze the implications of possible changes in the international economic environment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Grace Ilogon, room S8-038, extension 33732 (48 pages).

585. Financial Innovation and Money Demand: Theory and Empirical Implementation

Patricio Arrau and José De Gregorio

A model that treats financial innovation as shocks that have a permanent effect on demand for money.

Traditional estimates of money demand are often characterized by periods of "missing money," unstable parameters, and autocorrelated errors.

Typically, these problems are resolved by changing specifications for the regressions once the shifts are identified. The shifts are usually associated with financial innovation.

Arrau and De Gregorio provide an alternative approach for dealing with the unobservable process of financial innovation. They derive from first principles a money demand that is consistent with many traditional models but that explicitly includes financial innovation. In their model, financial innovation is treated as shocks that have a permanent effect on demand for money.

They estimate the model using data for Chile (1975-89) and Mexico (1980-89).

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to look for better structural models for developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 31047 (42 pages).

586. The Challenging Arithmetic of Poverty in Bangladesh

Martin Ravallion

The recent evidence of a decline in absolute numbers of poor in Bangladesh in the 1980s is unconvincing. Recent growth in Bangladesh has been relatively low in a country where it needs to be relatively high to avoid an increase in the number of poor.

Did poverty increase in Bangladesh in the 1980s? How responsive is poverty in Bangladesh to economic growth and changes in relative inequalities? What are the prospects for poverty alleviation through currently anticipated economic growth in Bangladesh?

Ravallion addresses these questions using a narrow definition of poverty, whereby a person is judged to be poor if he or she resides in a household the income of which does not allow a consumption level that permits adequate nutrition. He concludes: • The recent evidence of a decline in absolute numbers of poor in Bangladesh in the 1980s is unconvincing. The rate of growth in real per capita consumption of 10 percent a year implied by the underlying household spending surveys is too high to be believed. One cannot assume that the national accounts are accurate, but their implied growth rate of about 0.5 percent a year is more plausible. Assessments of growth in the 1980s consistent with national accounts data (using household surveys only to measure *relative* inequalities) suggest that the proportion of the population deemed to be poor has remained fairly stable in recent years — while absolute numbers of poor have increased.

- Per capita growth rates in Bangladesh have been below average for South and Southeast Asia in the 1980s, and few observers expect this to change in the 1990s.
- The growth rates needed to prevent an increase in the absolute numbers of poor in Bangladesh, or to attain any given rate of poverty reduction, are higher than similar calculations have suggested would be needed for some other low-income countries in Asia. At a widely assumed poverty line for Bangladesh, the growth rate of real consumption per capita must be at least equal to the rate of population growth before the absolute numbers of poor can start to fall appreciably without a shift in relative inequalities. Such a growth rate has not been achieved in recent times, but is expected over the next 10 years or so by some observers.
- Recent growth in Bangladesh has been relatively low in a country where it needs to be relatively high to avoid an increase in the number of poor.
- Certain changes in relative inequalities could, in principle, wipe out poverty alleviation through growth. It appears that a fairly substantial change would be needed to do so for the simple headcount index of poverty in Bangladesh. However, other measures of poverty — which reflect changes in living standards of the poorest — will be more sensitive to how equitable the growth process is in the near future.
- Any poverty alleviation strategy for Bangladesh should strongly encourage domestic policy reforms and international assistance that not only enhance the rate of growth but also ensure that its benefits are shared widely.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — was prepared as a background paper for the *1990 World Development Report* on poverty. The paper draws on results from a PRE research project, Policy Analysis and Poverty: Applicable Methods and Case Studies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (32 pages).

587. Quantifying the Magnitude and Severity of Absolute Poverty in the Developing World in the Mid-1980s

Martin Ravallion, Gaurav Datt, Dominique van de Walle, and Elaine Chan

Aggregate poverty would fall fairly rapidly if moderate growth in average consumption levels could be sustained and *the poor could share at least proportionally in that growth. But it would take only small adverse shifts in the world distribution of income to wipe out the potential gains to the poor from economic growth.*

The authors estimate that about one in five persons in the developing world did not attain a consumption level of $23 per month in 1985 adjusted to constant $US purchasing power. About one in three persons did not attain a consumption level of $31 per month. They argue that a strong case can be made for treating the $23 figure as a reasonable lower bound for an absolute poverty line, while $31 is of interest as a common poverty line in low-income countries.

They find that the average consumption of the poor in the developing world was about 30 percent below either poverty line. This may be a very significant gap for a poor person. But, despite the large numbers of poor, the aggregate gap turns out to be a very small proportion of world consumption; for example, the aggregate poverty gap of the developing countries at the $31 poverty line is about 1.5 percent of the aggregate consumption of the non-socialist countries, falling to a mere 0.5 percent for the lower poverty line.

The authors find that aggregate poverty in the developing world will respond fairly elastically to economic growth, provided that the poor share at least proportionately in that growth. For example, a 1 percent annual growth rate at all income levels will reduce the proportion of the population that is poor by about 2 percent per year. If annual population growth rates stay at about 2 percent or lower, the total number of poor will decline.

However, the authors' results also suggest that even a seemingly modest worsening in distribution could upset this progress in poverty alleviation. For example, if the same 1 percent growth rate in average consumption was associated with only a 0.25 percent annual increase in the world Gini index of inequality, the reduction in the poverty gap attainable through growth would be virtually eliminated. Such a rate of increase in the world Gini index has been observed over recent decades, associated with the relatively low growth rates of a number of the poorest countries. In this case, the number of persons who do not attain even the most meager consumption levels would almost certainly increase.

On the other hand, a pattern of growth more favorable to the poor could rapidly accelerate global poverty reduction. The authors consider a rate of *decrease* in the world Gini index of 0.25 percent per year, roughly equivalent to a transfer of one-third of 1 percent of the world's mean income from the better-off half to the poorer half of the world's population. This would roughly double the rate of decrease in the aggregate poverty gap (measured against their higher poverty line) associated with a 1 percent annual growth rate in mean consumption of the developing countries. Instead of the decrease of 2.2 percent per year we could expect with distributionally neutral growth, we would see the poverty gap fall at an impressive annual rate of 4.5 percent.

This paper — a product of the Agricultural Policies Division, Agriculture and Rural Development Department — was prepared as a background paper for the *1990 World Development Report* on poverty. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact the World Development Report office, room S13-060, extension 31393 (43 pages).

588. Obstacles to Developing Small and Medium-Sized Enterprises: An Empirical Assessment

Brian Levy

How financing, regulatory, technical, marketing, and other constraints inhibit small and medium-sized enterprises from participating in the economies of Sri Lanka and Tanzania — and what this means for policy.

Brian Levy analyzes different types of constraints on the participation of small and medium-sized enterprises (SMEs) in the economies of Sri Lanka and Tanzania. He concludes that:

• The type and severity of constraints vary between the two countries:

Lack of access to finance is the binding nonprice constraint on the expansion of all SMEs in Tanzania, and on smaller, less-established firms in Sri Lanka.

In Tanzania, tax and regulatory burdens are the next heaviest constraint on all SMEs. In Sri Lanka, the smallest, least-established enterprises maintain an informal status outside the regulatory web. Larger, established Sri Lankan SMEs are inhibited by a host of nonprice constraints, no one of which is dominant.

• Tanzania's formal and informal financial systems for SMEs are weak. Sri Lanka's financial system for SMEs functions well; firms for which financing is limited are those to which lending would be imprudent. A key policy question is whether targeted credit should be used to accelerate SMEs' access to formal financial institutions (such a World Bank program was important for Sri Lanka's success) and whether banks should use their SME lending apparatus to make loans to microenterprises (which even in Sri Lanka are denied access to formal finance).

• Regulation inhibits the expansion of SMEs in quite different ways in the two countries:

In Sri Lanka, heavy formal tax and regulatory obligations are imposed only on larger firms. Reform priorities there should be to reduce these disincentives to firms achieving formal status and to broaden (but not to the point of universality) the reach of the tax and regulatory apparatus.

In Tanzania, heavy tax and regulatory requirements are imposed on all firms, albeit with pervasive lubrication and renegotiation of formal obligations. There the reform priority should be to exempt the smallest enterprises entirely from regulatory and tax obligations and to introduce more transparent administrative procedures.

• Underdeveloped arm's-length markets for intermediate inputs constrain the participation of SMEs. A prime cause of such market weakness is vertically integrated production by state-owned enterprises, even where there is no economic rationale for such integration. A challenge for privatization is to distinguish between those sectors where vertical integration is efficient and should be maintained when state-owned enterprises are privatized and those where the vertical structure should be broken up, allowing more opportunities for SMEs to participate.

• Educated entrepreneurs in established SMEs that serve high-quality market niches (but not uneducated entrepreneurs serving simpler markets) perceive limits in enterprise and economywide technical and marketing capabilities as significantly constraining expansion. It remains uncertain whether the weakness of support systems signals an underlying market imperfection that only government intervention can overcome.

This paper — a product of the Public Sector Management and Private Sector Development Division, Country Economics Department — is part of a larger effort in PRE to understand how to strengthen the private sector in developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Ernestina Madrona, room N9-061, extension 37496 (62 pages).

589. To Prescribe or Not to Prescribe: On the Regulation of Pharmaceuticals in Developing Countries

Jeffrey S. Hammer

A simple model is derived for determining which drugs should be available over-the-counter (and thus widely available even to those without access to formal health care) and which should be sold by prescription only (to reduce the dangers of errors in self-prescription).

From a theoretical perspective, Hammer examines policy considerations in the choice between allowing drugs to be sold over-the-counter and allowing them to be sold only under prescriptions issued by health professionals.

The essential tradeoff can be stated starkly. On the one hand, people are likely to make potentially large errors in self-prescription, with serious consequences. On the other hand, limiting drug availability to those with access to formal health facilities will exclude many from the market or run the risk of making drugs prohibitively expensive.

Hammer sets out a simple formal model and discusses the types of drugs that are optimally handled in one mode or the other.

What factors determine this choice? The nature of the drug, the relative precision of professional diagnoses versus those of the public, and the demand characteristics of health care.

Hammer also examines the effects of different policy options such as pricing policy, the training of professional personnel, and essential drug lists.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — was presented to the Second Congress on Health Economics in Zurich, Switzerland, in September 1990. It is part of a larger effort in PRE to determine methods for valuing information and information provision in the health sector. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (17 pages).

590. The Domestic Financial Market and the Trade Liberalization Outcome: The Evidence from Sri Lanka

Premachandra Athukorala and Sarath Rajapatirana

The main finding of the study is that the domestic financial market plays a very significant role in the success or failure of trade liberalization. This was found to be *the case in Sri Lanka during 1977-87.*

Athukorala and Rajapatirana developed a framework for analyzing the relationship between domestic financial markets and the effects of trade liberalization and applied it to Sri Lanka's experience between 1977 and 1987. They found that the domestic financial market significantly affects the outcome of trade liberalization.

Because Sri Lanka deregulated its interest rates when it undertook the trade liberalization, this allowed those earning more from trade liberalization to hold financial assets rather than nontradables. The availability of savings and time deposits at attractive interest rates prevented the premature appreciation of the exchange rate, thus helping to maintain the competitiveness stimulated by trade liberalization. By reforming interest rates, removing credit ceilings, and increasing competition among banks, Sri Lanka helped increase private sector savings — which could be reallocated to the tradable sector.

Unlike earlier studies on financial reform in Sri Lanka, this one finds that financial reforms have increased private savings in financial institutions, raised economywide financial intermediation ratios, and expanded credit to the private sector.

More important, Athukorala and Rajapatirana find a statistically significant relationship between the financial intermediation ratio and the real exchange rate.

Credit to the private sector had increased after reform of the financial sector, but its reallocation was inhibited by large fiscal deficits, inconsistent monetary policies, and increased intervention in the financial market. Through their negative effect on the real exchange rate, these interventions offset some of the gains in competitiveness achieved through trade liberalization.

Athukorala and Rajapatirana find no evidence of financial crowding out in Sri Lanka.

This paper — a product of the Trade, Finance, and Industry Division, Technical Department, Latin America and the Caribbean Regional Office — was undertaken as part of the World Bank's comparative study, Macroeconomic Policies: Crisis and Growth in the Long Run. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Margaret Kienzle, room I4-058, extension 30733 (55 pages).

591. Global Indicators of Nutritional Risk

Rae Galloway

A quick reference on the prevalence of protein-energy malnutrition among children in developing countries.

The purpose of this paper is to provide a quick reference on the prevalence of protein-energy malnutrition by presenting available weight-for- age data for children in developing countries.

These country data are arranged in tables by area of the world and by World Bank-designated income groups.

The data are also shown geographically on a map of the world.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to provide information on malnutrition to Bank staff working in operations. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (17 pages).

592. Official Credits to Developing Countries: Implicit Transfers to the Banks

Asli Demirgüç-Kunt and Harry Huizinga

The stock market expects virtually all additional resources provided to debtor countries to be used for debt service to commercial banks. The stock market capitalization of banks increased about $6 billion at the time of the 1983 U.S. proposal to increase its quota to the IMF by $8.5 billion, and by a low estimate of $22.4 billion at the time details of the Brady Plan were recorded.

Two types of event have affected returns of banks that are heavily exposed to third world debt in the 1980s: actions by the debtor countries (such as declarations of moratorium) and official actions (such as changes in regulations and in the provision of official monies to the debtor countries).

The effect of the first type of event has been extensively investigated. There are fewer studies analyzing the effect of official actions on bank stock returns. Demirgüç-Kunt and Huizinga investigate to what extent official money available to debtor countries has devolved to the banks, as reflected in stock market prices.

They find that the stock market expects virtually all additional resources provided to debtor countries to be used for debt service to commercial banks. The stock market capitalization of banks increased about $6 billion at the time of the 1983 U.S. proposal to increase its quota to the IMF by $8.5 billion, and by a low estimate of $22.4 billion at the time details of the Brady Plan were recorded.

The estimate of the magnitude of these effects is informative, but the emphasis should be on the direction of these effects, as they are robust to overestimation problems.

Clearly official resources provided to debtor countries do devolve to creditor banks. But the debtor countries should at least gain insofar as the reduction of a debt overhang eliminates investment distortions.

The results here stem from the fact that some of the monies provided by the multilaterals are specifically earmarked for debt service or are in the form of general balance-of-payments support that the developing countries can use for private debt service. Official creditor resources that are specifically provided to finance development projects are less likely to be allocated to bank debt service.

This paper — a product of the Debt and International Finance Division, International Economics Department — is part of a larger effort in PRE to understand commercial bank lending behavior. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sheilah King-Watson, room S8-025, extension 33730 (29 pages).

593. Risk Management in Sub-Saharan Africa

Stijn Claessens and Ying Qian

The optimal risk-minimizing financial portfolio for Sub-Saharan African countries would include only 30 percent general-obligation loans and 70 percent loans for which repayment obligations are indexed to the price of Sub-Saharan Africa's most important exports: cocoa, coffee, cotton, copper, and oil.

Claessens and Qian investigate the vulnerability of countries in Sub-Saharan Africa to uncertainty about commodity prices, exchange rates, and interest rates.

They discuss some of the instruments these countries can use to manage financial risk and conclude that instruments linked to commodity prices would significantly reduce their risk.

To account for possible interactions between external risks, they estimate the optimal portfolio of financial instruments for Sub-Saharan Africa.

They show that the risk-minimizing portfolio for Sub-Saharan Africa comprises only about 30 percent of general-obligation loans and about 70 percent of loans for which repayment obligations are indexed to the price of Sub-Saharan Africa's most important exports: cocoa, coffee, cotton, copper, and oil.

This portfolio reduces by about 90 percent the uncertainty of Sub-Saharan Africa's resources available for imports.

The risk-reduction benefit of the optimal portfolio is fairly stable for specific commodities included and for the specific period for which it is estimated.

This paper — a product of the Debt and International Finance and International Trade Divisions, International Economics Department — is part of PRE's research on the use by developing countries of financial instruments linked to commodity prices. The paper was prepared for the symposium on African External Finance in the 1990s held at the World Bank in September 1990. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Julie Carroll, room S7-069, extension 33715 (53 pages).

594. Size Rationalization and Trade Exposure in Developing Countries

Mark J. Roberts and James R. Tybout

The popular belief that trade liberalization will increase average plant size in import-competing sectors is not supported by recent Chilean and Colombian experience.

Common wisdom dictates that increased exposure to global markets increases the elasticity of demand perceived by domestic producers, which in turn shifts production toward larger, more efficient plants. Rationalization of production is more pronounced when there are few barriers to entry and exit of firms, because inefficiently small plants are induced to shut down.

Simulation models support the perceived wisdom that liberalization of imperfectly competitive industries in developing countries results in larger plants and more efficiency. But there is little microeconometric evidence to confirm the adjustment mechanisms these models assume.

To see if these effects could be confirmed, Roberts and Tybout examined annual plant data from Chile and Colombia, using a simple model that summarizes some effects of trade exposure on producer size and productive efficiency. They found that:

- Increased exposure to import competition appears to clearly *reduce* the size of all plants in both the short run and (especially) the long run. The popular belief that trade liberalization will increase average plant size in import-competing sectors is not supported by recent Chilean and Colombian experience. This may mean that liberalization does not necessarily improve productivity, but their findings are not strong enough to warrant strong conclusions.
- The results depend greatly on whether barriers to firms' entry and exit are high or low. The effects of changing output levels, import and export shares, and effective protection rates are systematically moderated by the possibility of easy entry or exit. It could be that output adjustment by incumbent plants has less of a role when the number of plants adjusts to shifts in demand. Or it could mean that high turnover reflects competitive pressure and reduces the marginal impact of foreign competition on market structure.
- Long-run and short-run correlations of trade regimes and distribution of plant size are quite different. Short-run correlations associate exports with relatively large plants; long-run correlations associate exports with relatively small plants. Roberts and Tybout suggest caution in basing policy decisions on either finding.

These findings cast doubt on the mechanisms linking trade, plant size, and productivity in recent analytical and simulation studies.

This paper — a product of the Trade Policy Division, Country Economics Department — is part of a larger effort in PRE to study industrial competition, productive efficiency, and their relation to trade regimes. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Sheila Fallon, room N10-035, extension 37947 (39 Pages).

595. Hungary: Financial Sector Reform in a Socialist Economy

Mario I. Blejer and Silvia B. Sagari

The first steps of the Hungarian financial reform are in the right direction, and given the short time elapsed they have been successful. But administrative and technical obstacles remain, and a deepening of supporting measures is required.

Financial reforms in formerly centrally planned economies take a different form than in market economies because they imply not only liberalizing the system but also reshaping the structure and functioning of financial markets. And the reforms must be designed to facilitate the conduct of monetary policy under rapidly changing economic circumstances. To fulfill this role, financial reforms should (1) provide the authorities with monetary policy instruments that contribute to short-term stabilization and (2) provide the incentives for inducing a more efficient intermediation of savings through the financial markets.

In this context, Blejer and Sagari identify the main tasks and targets of financial reform and comment on the key developments of the Hungarian process.

Hungary has made substantial progress, they conclude, but macrofinancial indicators suggest that administrative and technical obstacles remain and that supporting measures must be deepened. Four steps in particular are needed:

- The ability of the monetary authority to conduct monetary policy must be enhanced.
- The operating and financial condition of financial intermediaries must be improved.
- Healthy competition among financial intermediaries must be encouraged.
- A prudential regulatory framework that does not discriminate against the development of a securities market must be established.

This paper — a product of the Financial Policy and Systems Division, Country Economics Department — is part of a larger effort in PRE to analyze sector reform in socialist economies in transition. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Zena Seguis, room N9-005, extension 37665 (26 pages, including figures).

596. The Mexican Sugar Industry: Problems and Prospects

Brent Borrell

The economic costs of the extensive government regulation of the Mexican sugar industry are quantified and policy changes are suggested.

The Mexican sugar industry has been subject to extensive government controls over land ownership, cultivation, harvesting, milling, marketing, distribution, and pricing. The many objectives of these interventions include protecting producers and consumers from world price variability, ensuring self-sufficiency, guaranteeing employment and social welfare, providing cheap milling services, and protecting domestic soft drink manufacturers.

Borrell's calculations show that although the interventions have helped stabilize industry returns to some degree, the estimated effective rate of assistance points to a high degree of resource distortion. In years when world prices were low, such as in 1985-88, the effective rate of assistance is estimated in the range of 70-390 percent.

To analyze the impact of changes in Mexican sugar policies, Borrell constructed an econometric model of the Mexican sugar industry. This was linked to a global model of the world sugar industry. Stochastic simulations projecting the Mexican sugar industry under these policies show consumption increasing faster than production and Mexico increasing its sugar imports. It appears unlikely that under such policies Mexico would return to being an exporter of sugar.

In simulations of a sugar industry operating under essentially free trade conditions, Mexico becomes a significant sugar exporter. Production, trade, and stocks are more variable, and consumption growth is curtailed. But welfare in the economy as a whole would be increased substantially. The main beneficiaries would be sugar producers, and the losers consumers — but the loss to consumers would average less than US$3.20 per person per year.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for world commodity markets of changes in developing countries' trade policies and to assist developing countries in designing good trade and industry policies. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Pauline Kokila, room S7-040, extension 33716 (60 pages).

597. Rent Sharing in the Multi-Fibre Arrangement: Theory and Evidence from U.S. Apparel Imports from Hong Kong

Refik Erzan, Kala Krishna, and Ling Hui Tan

The actual cost of the multi-fibre arrangement (MFA) quotas to exporting developing countries could be considerably higher than conventional estimates that assume that exporters seize all the scarcity rents. For U.S. apparel imports from Hong Kong, the authors' findings point to a 50-50 sharing of the rents between the exporters and the importers.

Available estimates of tariff equivalents of quotas and welfare calculations on the costs of MFA quotas for developing countries are based on the premise of perfect competition in both product and license markets. It is also assumed that the exporting countries that administer the MFA quotas receive all the scarcity rents. Erzan, Krishna, and Tan argue that, in the presence of market power on the buyers' side in the product markets combined with concentration in the license markets, the importing countries might retain part of this rent — that is, share it with the exporters. Although the impact of imperfect competition on rent appropriation — non-equivalence of tariffs and quotas, and the size of the rent — has been analyzed in literature, rent sharing has so far been ignored in both analytical and empirical work.The paper makes a theoretical case for rent sharing, and then analyzes U.S. imports of apparel products from Hong Kong. It does not specify a particular model of imperfect competition but investigates whether the data conform to all the relevant predictions of the competitive model. The authors' method essentially tests whether the license price inclusive Hong Kong price, adjusted for tariffs and transport costs, is equal to the domestic (U.S.) price. A deviation between the two prices indicates rent sharing.

Erzan, Krishna, and Tan test the hypothesis with homogenous goods, modify it to take into account compositional differences, and, finally, consider differentiated goods. They find that historical data do not conform with the predictions of the competitive model. There is strong evidence that importers retain a substantial portion of the MFA quota rents. The determinants of the price differential are also studied.

Rent sharing substantially affects the estimated magnitude of welfare losses that exporting developing countries suffer because of MFA quotas — and, for that matter, because of any voluntary export restraint (VER) in other sectors. Not only do these countries have reduced export volumes, but, contrary to the prevailing wisdom, they do not receive all the scarcity rents the quotas generate.

This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to quantify the effects of protectionism, particularly in the developing countries. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Grace Ilogon, room S7-033, extension 33732 (70 pages).

598. Africa Region Population Projections, 1990-91 Edition

Patience W. Stephens, Eduard Bos, My T. Vu, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

As recently as the mid-1970s, the Africa region had a smaller population than the Asia, the Latin America and the Caribbean, or the Europe, Middle East, and North Africa regions. Explosive population growth of more than 3 percent per year, projected to decline only gradually, will make Africa the second largest region by 2005. Its share of the world's population will increase from less than 10 percent now to 20 percent in the middle of the next century and to 25 percent when stationarity is finally reached.

Vital rates vary relatively little among the subregions of Sub-Saharan Africa. Fertility is uniformly high, with the total fertility rate higher than 6 children per woman.

Linked with high fertility are high infant mortality rates, which are above 100 per thousand births for all subregions.

A few countries — Botswana, Zimbabwe, and Kenya — are leading the way in the African fertility transition. Recent fertility surveys in these countries show an increase in the use of contraceptives and the first evidence of fertility decline. It is assumed in the projections that this trend will spread to other countries. Most African governments now report their country's population growth rates as too high.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (222 pages with graphs and tables).

599. Asia Region Population Projections, 1990-91 Edition

Eduard Bos, Patience W. Stephens, My T. Vu, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

Almost half the world's population lives in Asia. This proportion is projected to decline to 40 percent by the end of the next century, mainly because of slowing growth in China. Other countries will continue to grow rapidly, and India, which adds more people every year than any other country, is projected to surpass China in total population.

Recent contraceptive prevalence surveys in several countries in the region show increasing proportions of couples using birth control. Fertility in these countries, mostly in Southeast Asia, has consequently declined rapidly.

Population growth rates started to drop in many countries in the region in the past decade, but the momentum built into the age structures of the populations will ensure continued population growth for many decades. Other countries in the region are lagging in fertility decline, and their populations will continue to grow at high rates. Infant and child mortality are lowest in countries where fertility has declined to low levels.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (202 pages with graphs and tables).

600. Latin America and the Caribbean Region Population Projections, 1990-91 Edition

My T. Vu, Eduard Bos, Patience W. Stephens, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

The Latin America and the Caribbean region is demographically at an intermediate stage. Fertility has declined to between 3 and 4 children per woman in all subregions as contraceptive use has continued to broaden. Life expectancy has risen to between 65 and 69, or about 10 years below countries with the most favorable mortality conditions. Some countries in the region have advanced to replacement level fertility; a few others are just starting the fertility transition. The projections show all countries in the region completing the transition by 2030 -- the earliest of all regions.

As a result of high fertility in the past, the region has a young population, with 36 percent of the population under age 15. With fertility and mortality projected to continue to decline, working age population will be a rapidly expanding share of the total.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (208 pages with graphs and tables).

601. Europe, Middle East, and North Africa Region Population Projections, 1990-91 Edition

Eduard Bos, Patience W. Stephens, My T. Vu, and Rodolfo A. Bulatao

New estimates of trends in demographic indicators from the 1970s and revised projections for all countries and economies in the region.

Recent trends in demographic indicators in the countries of the Europe, Middle East, and North Africa region show the distinctions among its three subregions:

- In Europe, low levels of fertility, mortality, and population growth persist.
- In North Africa, fertility has started to decline in the last decade, but high population growth continues because of young age structures and declining mortality.
- In the Middle East, fertility decline has not yet started in most coun-

tries, and population growth rates are among the highest in the world.

The population of the region as a whole is growing at 2.4 percent, and is projected to double in 30 years. During the 1990s, the region's population will increase by 14 million people every year. The total fertility rate is generally high -- more than 6 children per woman in a dozen countries in the region. The infant mortality rate of 85 for the region, excluding Europe, exceeds the average for developing countries. The projections show mortality and fertility declining in all countries, following a model based on an analysis of observed trends worldwide.

This paper — a product of the Population, Health, and Nutrition Division, Population and Human Resources Department — is part of a larger effort in PRE to update demographic estimates on an annual basis. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Otilia Nadora, room S6-065, extension 31091 (234 pages with graphs and tables).

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Stock# 31326